# STATUS AND PROBLEMS OF CO-ORDINATED RAIL-MOTOR FREIGHT SERVICE IN THE UNITED STATES

A THESIS
IN ECONOMICS
PRESENTED TO THE FACULTY OF GRADUATE SCHOOL OF
THE UNIVERSITY OF PENNSYLVANIA IN PARTIAL
FULFILLMENT OF THE REQUIREMENTS
FOR THE DEGREE OF DOCTOR
OF PHILOSOPHY

CHENG SHIH HSU

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# FOREWORD

No parallel can be found in the history of transportation to the rapid growth of motor truck transportation in the United States. The railroad and steamship businesses took a century or more to reach their present state of development. The motor truck, in sharp contrast, has become one of the major agencies of transportation within a period of less than thirty years, chiefly within the past fifteen years.

The rapid progress of the new agency has changed the transportation situation of this country at least in two aspects: first, serious inroads into the field of railroad freight traffic by the truck threaten the prosperity and stability if not the existence of the railroad industry. Statistics demonstrate a striking rapid decline in the rate of increase of railroad freight traffic as compared to the general increase in the volume of production and distribution in the country excepting the past three years. Although it should not be construed that the total decline in rate of increase in railroad freight traffic was due to the motor competition, it is unquestionably true that a very large part of this decline has resulted from such competition. As pointed out by the Interstate Commerce Commission in the Increase in Freight Rates and Charges Case in 1931, "movement by truck is a new form of competition which has been developing with great rapidity. It has been principally effective on less-than-carload traffic, and relatively short haul of such commodities as livestock, cotton, cement, sand and gravel, gasoline, fruit and vegetable, and general merchandise: but it is continually extending to more traffic and for longer distance, as trucks and trailers are enlarged and highway improved......... Without exaggerating the menace of the form of competition we are convinced that the railroad carriers have underrated it and that its possibilities are materially greater than they are prepared to concede".

Secondly, owing to the absence of proper regulation to adjust the changing conditions, there is a great lack of stability of rates and practice of motor truck transportation. At present, there is no Federal regulation of interstate motor carriers; only a small proportion of intrastate motor carriers are subject to state regulation, for the majority of all trucking companies do not hold themselves out as common carriers, but as contract carriers, or the trucks are owned and operated by private industries. There are many trucking concerns which lack all responsibility and whose financial status is very questionable. Unjust discrimination against persons and places is not uncommon in soliciting traffic. Classifications and shipping rules, which are disregarded or not strictly complied with, are still further means of giving rebate or of showing preference between shippers.

Two unfortunate concequences may be expected from the present unrestricted competition between the rail and motor carriers: the railroad will be unable to maintain present level of service through insufficient earnings, and the indirect government-aid to highway thransportation is apt to lead to an oversupply of transportation facilities regardless of the public need.

In the opinion of leading authorities on transportation, the only way out of this chaotic situation is to bring all agencies of transportation into a harmonious operation for common interest and benefit instead of going into ruinous competition, which involves antagonistic economic interests. It is realized that rail and highway carriers have each a special work to perform, they can be of maximum service to the public and can be developed under more favoring conditions when these facilities are coordinated.

While the coordinated rail-motor freight service has been much discussed, no complete study has been made in this field, except Professor G. Lloyd Wilson's book on Coordinated Rail-Motor-Steamship Transportation published in 1929. Since the publication of this book, many new developments have taken place. It is the purpose of this study to supplement to Professor Wilson's book in regard to the coordinated freight services under the present basis of regulation of transportation in the United States. The writer has attempted to make an exhaustive study in every phase of this subject and to bring the existing materials together in one comprehensive survey. This dissertation attempts to bring together data upon the following points and to attempt to answer the following questions.

1. How far has the coordination of rail and motor freight service gone under the present basis of the regulation of interstate commerce?

2. What have been the results of these coordinated freight services, insofar as the results can be determined by the data accumulated by the carriers, and by the investigations of the Interstate Commerce Commission?

3. What is the status of the law with respect to the coordination of carriers subject to the Interstate Commerce Act?

In the preparation of this study, every attempt has been made to get at those sources which may be regarded as furnishing the most reliable basis for explanation of the particular aspects of the problem under consideration. The writer made personal interviews with officers of some leading railroads operating such service, such as the Pennsylvania, New York Central, Baltimore and Ohio, and Reading Railroad. Letters were sent out to all railroads which maintain the coordinated freight service. In addition, a larger part of materials were obtained from the Interstate Commerce Commission Dockets. These data are not published elsewhere.

The presentation of this subject is detailed and comprehensive, because the coordinated service as a whole includes wide range of activities. Moreover, some new types of service and equipment, which are not so familiar even to the railroad operating men, call for rather lengthy description.

The writer wishes to express his deep gratitude to Professor G. Lloyd Wilson of the Wharton School of Finance and Commerce for his guidance and criticism in the completion of this study.

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# CHAPTER I

## CO-ORDINATED RAIL-MOTOR FREIGHT SERVICE: MEANING AND PRESENT STATUS.

### A Definition of Co-ordination.

Before discussing the problem of co-ordinating the various agencies of transportation into an integrated system of transportation it is necessary to define the term "co-ordination." In general the word co-ordination means "the act of regulating and combining so as to give a harmonious result.⁽¹⁾ When the term is applied to the transportation system, it should be interpreted in a more specific way. According to the interpretation of an English economist,⁽²⁾ co-ordination may be divided into two groups: internal and external co-ordination. The former is the co-operation within a particular transportation agency with the aim of eliminating wasteful competition as between various independent carriers. The latter is the co-operation between different types of transportation agencies to prevent unnecessary duplication. Accordingly, the co-ordination of transportation may be defined as:⁽³⁾

> A condition in which two or more systems, whether in the same or separate ownership, work together effectively under an arrangement mutually agreed and conditioned by the public interest.

In the opinion of Professor G. Lloyd Wilson, the co-ordination of the motor carrier with other agencies implies the adoption of this new agency into a general system of transportation upon a common basis with all other carriers, so that all, by united action, may render more efficient service.⁽⁴⁾

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(1) Wilson, G. Lloyd, "Co-ordinated Motor-Rail-Rail-Steamship Transportation," Page 1; and I.C.C. Docket No. 23400, Sheet 12.

(2) Fenelon, K. G. Report of the Royal Commission on Transport, Page 954.

(3) Final Report of British Royal Commission on Transport, 1931, Page 217.

(4) Wilson, G. Lloyd, "Co-ordinated Motor-Rail-Steamship Transportation," p.l.

The co-ordination of different agencies into one integral system does not mean, necessarily, the entire elimination of competitive forces among them.(5) It is understood that reasonable competition is the effective incentive for improvement, co-ordination eliminates wasteful competition, while at the same time preserving competition in the fields where each agency can perform the service with equal efficiency and economy. In this way the continuance of every essential agency, and the provision of the maximum variety of service will be assured.

By assigning each agency to its economic limits, each one may render efficient service as part of an integrated system. This implies the substitution of one type of agency for the other, if the former performs the service more efficiently and at lower costs than the other. Therefore, the railroad should be permitted to discontinue unprofitable services to which the motor truck is better adapted, and the motor truck should be released from those functions which go beyond its economic limit.

### The Objectives of Co-ordinated Service.

The objectives of the co-ordination of motor and rail transportation may be briefly summarized as follows:

1. The aim of co-ordinated service is to place every agency in the position in which it can function most efficiently. In certain fields motor transportation is more economical, then, the rail transportation should give way to the motor carrier, and vice versa. The result of such an arrangement would be to improve the service and reduce the cost of transportation. It should be borne in mind that this arrangement by no means relegates either agency to a minor position, as far as service is concerned. Each one is just as important as the other. This could be likened to a machine, each part of which has its own function which should be put to the proper use.

2. The shipping public will be better served under a co-ordinated system of transportation. The public is entitled to the best and cheapest service which economic

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(5) Johnson, E.R., "Trends in Transportation," Wharton News, Dec. 1931.

conditions permit, no matter whether the service is performed by one or by several agencíes. After all, it is the service and not the instrumentalities of transportation that concerns the public. Under a properly co-ordinated plan of transportation, the shipping public should deal with only one agency to obtain the desired transportation service, thus saving a great deal of unnecessary trouble required under the present unco-ordinated system. Through the more efficient utilization of facilities, the cost of transportation can be reduced to a minimum, and the speed of through service increased to the maximum under existing conditions.

From the national point of view the co-ordination of the various agencies of transportation into an integrated system is the best policy for the expansion of transportation facilities. On one hand, it preserves the investment in the existing facilities by eliminating the unnecessary competition; on the other, it stabilizes the new facilities or instrumentalities by assigning definite places in which to function. Unnecssary competition leads to the duplication of facilities and services, not only in different agencies but also in the same agency. In the long run, this constitutes social waste. Co-ordination tends to reduce this waste to a minimum. Because of lack of experience, the new agencies of transportation would seek to render many types of services, some of which, inevitably, would be beyond their proper economic sphere. Through proper co-ordination, this defect could be remedied.

### The Economic Basis of Co-ordination.

The theory underlying the possibility of co-ordinating two different transportation agencies as one unit is that there are differences in the functions of the various types of carriers. It is due to these differences that combinations of the agencies,—the rail and the motor carriers,—can be effected. Otherwise, there would be no valid reason for co-ordination on economíc grounds. If one agency of transportation is superior to the other for all purposes, in due time the more efficient one will drive the inferior one out of existence, unless artificial restirctions are imposed. Co-ordination under such conditions would be meaningless and unnecessary.

The economic structure and the operating methods of rail and motor transportation should be noted. In the first place, the economic structure of these two agencies offers a striking contrast. The railroad company must spend millions of dollars in property in the form of land, plant, tracks and other structures, before engaging in business. Owing to the heavy overhead charges, the railroad is considered to be an industry of increasing returns, because not only its fixed charges are constant, that is, independent of the volume of traffic, but a larger part of its operating costs also are constant. Therefore, up to a certain point, the increase in expenses does not vary proportionately to the increase of traffic. In other words, railroad unit costs tend to vary inversely with the volume of traffic; the greater the volume of traffic, the less will be the unit cost, and vice versa.

In the case of motor truck operation the situation is different. The truck carrier can begin business with a relatively small amount of capital, and additional capital may be added as the volume of traffic increases. This is especially true in recent years since the installment payment plan for motor vehicle purchases has been put into effect by motor truck manufacturers and distributors, either directly or through finance companies. A trucking company may amortize the amount payable from the operating revenue. Since the overhead is comparatively small, the advantages resulting from large scale operation are not so significant to a trucking company as to a railroad.

Another important point should be taken into consideration in the operating methods of railroad and motor carriers. By collecting shipments from the shippers' door and delivering them to the consignees', the motor transportation carriers have practically no terminal operating expenses. To the railroads, terminal handling always presents a difficult problem. In most cases, the expeditious movement by rail line-haul service is largely offset by delays in congested terminals. Despite the efficient movement in line-haul at a speed of 35 to 40 miles per hour, the overall speed of the movement from the consignor to the consignee is less than 10 miles per hour, due to the detention in terminals of as much as 36 hours. (6) No such difficulty exists in motor truck operation. Although line-haul movement is slower comparatively than rail movement, the motor freight carrier attains an average speed of 20 miles per hour by eliminating delays at both ends of the route in terminal operation. This is why the motor truck carrier can perform overnight service within a radius of 350 miles.

The flexibility of truck operation is another vitally important factor to which its success may be attributed. Unlike the railroads, truck lines are not limited by fixed roadbed and the routes can thus be changed from one place to another as the volume of traffic warrants. Its service is of such a nature that it can be arranged to suit individual needs of shippers and consignees. Owing to these advantages, the truck has been found to serve satisfactorily both in districts of relatively dense population that are well developed industrially and in districts of lighter traffic density where the development is spread along the rail lines rather than concentrated at one city or at a few large towns.(7)

Next, the carrying capacity of the equipment used by these two agencies should be considered. The average loading capacity of railroad freight cars is about 45 tons, while the maximum capacity of a truck is about 10 tons. A freight train consists of as many as one hundred cars while a truck can pull but two trailers. From the above statement it can be seen that in handling a heavy volume of traffic the railroad is in a better position than the motor truck, because freight car can transport a load practically three times that of a modern standard tractor and trailer. A simple calculation will reveal the significance of this statement. In 1929 the Class I railroads moved about 447 billion ton-miles of freight, an average of 1,220,000,000 ton-miles each day.(8) If this volume of traffic had been moved by motor truck having a carrying capacity of 10 tons and capable of traveling 200 miles daily, it would have required 610,000 trucks to be constantly in operation. It would be impossible to accommodate such heavy traffic on the existing highway system, to say nothing of the high cost of truck operation.

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(6) Turney, J.R., "The Motor Truck-A Threat and an Opportunity," Railway Age, Volume 91, No. 19, November 7, 1931, P.202

(7) Johnson, Huebner, and Wilson, "Principles of Transportation," Page 416.

(8) Year Book of Railroad Information, 1931 Edition, p. 24.

Again, the difference in man-power in handling freight by the two agencies is interesting. For example, in 1929, the Pennsylvania Railroad reported an average lading of 28.4 tons of revenue freight per loaded car, and an average of 35. 4 loaded cars per train. This would mean 1,005 tons per train, and, with an average crew of five men per train, 201 tons moved per man. Assuming one man per five-ton truck, it would require 201 men to move the same amount of freight by motor truck that could be moved by a train crew of five men by railroad.(9)

Perhaps the most important factor in determining co-ordination is the comparison of the cost of operation in freight handling between these two agencies. Unfortunately, in making such comparison there are several difficult problems. In the first place, so far no thorough study has been made of the cost of truck operation on which such a comparison can be based. For many years the railroads have been required to keep their accounts in accordance with forms prescribed by the Interstate Commerce Commission. Based on these reliable accounts a fairly accurate calculation can be made of the cost of rail operation. No similar data can be found for motor truck operation, because state regulation does not impose the same requirements upon motor carriers as are imposed by the Interstate Commerce Act upon railroad carriers. Even if such data were available, the question would remain unsettled. It is a moot question whether, or to what extent motor carriers are receiving direct or indirect government aid. What the true picture of this cost of truck operation would be, if those subsidies included, is not known? In this connection, the Interstate Commerce

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(9) Whitridge, Horatio L, "The Railroad—An New Era of an Old Industry," Railway Age, Feb. 21, 1931, p. 396.

Commission recommended that Congress should provide for an impartial and authoritative investigation in order to determine the exact amount of such subsidy, and what steps should be taken in remedying the situation.

In the following analysis, operating costs per ton-mile will be used as a common basis to measure the cost of operation of these two agencies. These figures serve to shed some light on the difference in cost of freight movement. In testifying before the Interstate Commerce Commission Mr. Carl R. Grey, Jr., Vice-President of the C. St. P. M. & O. Railroad, estimated the cost of railroad operation as follows:

> "Calculating according to the formula prescribed by the Interstate Commerce Commission for dividing operating expenses between passenger train service and freight train service, we find that the average operating expense of the railroad per ton-mile in 1929 was 68 cents. Add to this a proportionate amount for all other costs, including taxes and interest at four per cent on the investment, and we arrive at a figure of .919 cents as the total average cost of transportation per ton-mile on the railroads of the country."(10)

In a study of the costs of motor truck operation, according to the rated capacity of trucks, Sivald Johannesson estimates the cost per mile of truck operation as follows:(11)

| TYPE OF MOTOR TRUCK | COST OF OPERATION in Cents per Vehicle Mile | COST OF OPERATION in Cents per Ton-Mile |
|---|---|---|
| Light truck | 20 cents | |
| 1-ton truck | 25 " | 25 cents |
| 1½-ton truck | 37 " | 24.⅔ " |
| 2-ton truck | 51 " | 25½ " |
| 2½-ton truck | 54 " | $21.{}^{3}/_{5}$ " |
| 3-ton truck | 60 " | 20 " |
| 3½-ton truck | 62 " | 18 " |
| 5-ton truck | 67 " | $13.{}^{2}/_{5}$ " |
| 7½-ton truck | 71 " | 9½ " |

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(10) I.C.C. Docket 23400, Testimony of Carl R. Grey, Jr., for the C. St. P.M. & O. RR.

(11) Johannesson, Sivald, "Highway Economics," Chap. III, Motor Vehicles Operations Cost Per Vehicle Mile, p.44.
Detailed items and explanation shown in Appendix............

Due to the efficiency of railroad movements of long-haul and heavy and bulky traffic, the average cost per ton-mile by rail is much lower than the ton-mile cost by truck. It does not follow, however, that railroads can handle all classes of traffic at costs lower than the costs of transportation by motor truck. In fact, the heavy terminal expenses upon L.C.L. traffic makes the cost of operation by railroad exceedingly high,—much higher than the costs by truck.

Another factor which should not be neglected is the introduction of trailers into truck operation. They not only increase the load capacity of equipment but also decrease the unit cost of operation. It is reported that the average cost per ton-mile by truck and trailer is approximately 6 cents, thus reducing the handicap of truck operation.

In conclusion, it may be stated that motor transportation, because of small capital, individual units, and flexible service, has the advantage of lower cost of operation for a comparatively small quantity of traffic over short distances. The railroad, on the other hand, is better adapted to the handling of bulky commodities and large quantities of traffic for long distances, not only because the equipment can be used to the full capacity, but the unit cost of operation tends to decrease as traffic increases. Therefore, the sound basis of co-ordinating rail and motor transportation is the use of railroads for long-hauls and the motor trucks for short-hauls and terminal handling. Acting together the co-ordinated motor-rail carriers would be able to give the public a cheaper and more efficient service than is at present possible without lessening the return of either.(12)

Present Status of Co-ordination.

The question of co-ordinating rail and motor transport facilities has drawn the attention of railroad executives, commercial organizations and students of transportation since the early part of last decade. In 1923, a special committee was appointed by the Chamber of Commerce of the United States to make a comprehensive study of the relation of motor transportation to other transportation agencies. In its authoritative report the Committee stated that the proper place for the new agency, the motor truck, is to supplement other existing facilities rather than compete with them.

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(12) Clement, M.W., Vice-President of Pennsylvania Railroad, "Future Trend of American Transportation," in Yale News Daily, January 12, 1931.

The rapid stride in the development of motor transport in recent years has led to serious consideration of this subject by the Interstate Commerce Commission, in two investigations into the operation of motor busses and motor trucks by or in connection with rail carriers. The first investigation was undertaken in 1926, upon the Commission's own initiative in order to obtain necessary information upon which recommendation relating to the cooperation of rail and motor carriers could be based.

The question was again investigated in 1930 in a second and more extensive investigation in which hearings were held in seventeen cities throughout the country. Evidence was offered by nearly 300 witnesses covering practically every phase of motor transportation throughout the United States and the relation of motor transportation to other agencies.

The railroads have entered extensively into the use of motor trucks since 1927. Before this year, only a few leading railroads in the Eastern District adopted the new agency to supplement their rail freight services. Since then, however, this practice has been spread throughout the country so extensively that in 1928 the American Railway Association organized a new division,—The Motor Transport Division,—in order to facilitate the co-ordination of motor and railroad in both passenger and freight services.

This new Division acts as a clearing house for the exchange of experience of the member railroads in operating motor bus or truck service, so that rail carriers planning the establishment of such services may have the advantage of the experience gained by other railroads already engaged in such operations. The members of the

Division are important officers of the operating departments of leading railroads. Two meetings are held each year in which important problems are discussed, so that every member may keep close touch with the latest information pertaining to the development of rail-motor transportation. Thus operating problems in the field of motor service need no longer be approached more or less blindly by the railroads.

Railroad executives believe that there are three separate periods marking the development of the railroad business in the United States.(13)

1. the period of railroad building and the expansion of the physical plant,
2. the period of intensive development of the efficiency of the plant, and
3. the period of expanding new forms of transportation required by the growth and progress of the business and the necessity for the most economical distribution.

Today the railroads of the United States are entering the third period. The function of the railroads should not be confined to rail transport only, but should be broadened to such an extent as to permit the co-ordination of different forms of transportation into a national system of transportation, including all types of transportation facilities.

As of June, 1930, there were 32 Class I, 8 Class II, and 6 Class III railroads and 10 electric railways engaged in motor truck operation.(14) The following tables show the results of such operation up to June, 1930, Table I recapitulates the number of pieces of highway equipment, both trucks and trailers, owned by the operating lines, from 1917 to 1930, inclusive; Table II shows the number of truck-miles traveled in each year since 1927; and Table III gives the mileage of the truck routes engaged in interstate traffic. Table IV shows the mileage of intrastate truck routes. Table V summarizes the tonnage handled by trucks during the period, 1927-1930, and the last table, Table VI, shows the freight revenues derived from motor operation.(15)

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(13) Clement, M.W., Vice-President of the Pennsylvania Railroad, "Future Trend of the American Transportation," Yale Daily, January 12, 1931.

(14) 182 I.C.C. 398.

(15) Drawn from the figures published I.C.C. Docket No. 23400.

## TABLE I.

### INVENTORY OF TRUCKS AND TRAILERS OPERATED BY RAILROADS

(Recaptulation by Districts)

| | 1927 | | 1928 | | 1929 | | 1930 (6 months ending June) | |
|---|---|---|---|---|---|---|---|---|
| | Trucks | Trailers | Turcks | Trailers | Trucks | Trailers | Trucks | Trailers |
| Eastern District | | | | | | | | |
| Class I. Railroads | 132 | 34 | 209 | 56 | 316 | 77 | 433 | 85 |
| Class II Railroads | — | — | — | — | 1 | — | 2 | — |
| Class III. Railroads | — | — | — | — | 1 | 2 | 2 | — |
| Electric Railways | 2 | — | 16 | 5 | 34 | 10 | 40 | 44 |
| Total | 134 | 34 | 235 | 61 | 351 | 89 | 477 | 129 |
| Southern District | | | | | | | | |
| Class I. Railroads | — | — | — | — | — | 3 | 4 | — |
| Class II. Railroads | — | — | 2 | — | 6 | — | 7 | — |
| Class III. Railroads | — | — | 2 | — | 7 | — | 8 | — |
| Electric Railways | — | — | — | — | — | — | — | — |
| Total | — | — | 4 | — | 13 | 3 | 19 | — |
| Western District | — | — | — | — | | | | |
| Class I. Railroads | 9 | — | 10 | 4 | 94 | 11 | 114 | 30 |
| Class II. Railroads | — | — | 2 | — | 3 | — | 9 | — |
| Class III. Railroads | 1 | — | 3 | — | 7 | — | 10 | — |
| Electric Railways | — | — | 9 | 1 | 10 | — | 27 | — |
| Total | 10 | — | 24 | 5 | 114 | 11 | 160 | 30 |
| Grand Total | 144 | 34 | 263 | 66 | 479 | 103 | 546 | 159 |

— Data not available.

# TABLE II.

## TRUCK MILEAGE

| | 1927 | 1928 | 1929 | 1930 (6 months) |
|---|---|---|---|---|
| Eastern District | | | | |
| Class I. Railroads ..... | 856,211 | 1,511,310 | 2,594,169 | 1,915,160 |
| Class II. Railroads .... | — | — | 10,163 | 15,845 |
| Class III. Railroads.... | — | — | 14,000 | 16,000 |
| Electric Railways ..... | — | 51,850 | 884,192 | 565,666 |
| Total | 856,211 | 1,563,160 | 3,502,524 | 2,512,671 |
| Southern District | | | | |
| Class I. Railroads ..... | — | — | 48,854 | 34,510 |
| Class II. Railroads .... | — | 26,381 | 100,720 | 73,400 |
| Class III. Railroads.... | — | 65,063 | 104,387 | 79,153 |
| Electric Railways ..... | — | — | — | — |
| Total | 0 | 91,444 | 253,961 | 187,063 |
| Western District | | | | |
| Class I. Railroads ..... | 123,040 | 209,396 | 1,945,758 | 1,261,563 |
| Class II. Railroads..... | — | 14,368 | 55,843 | 90,211 |
| Class III. Railroads.... | 3,000 | — | 58,420 | 35.970 |
| Electric Railways ..... | — | 106,460 | 66,454 | 95,413 |
| Total | 126,040 | 330,224 | 2,126,475 | 1,483,157 |
| Grand Total | 982,251 | 1,984,828 | 5,882,960 | 4,182,891 |

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— Date not available

## TABLE III.

### INTERSTATE ROUTE MILEAGE

| | 1927 | 1928 | 1929 | 1930<br>(6 monthes) |
|---|---|---|---|---|
| Eastern District | | | | |
| Class I. Railroads ..... | 385.70 | 524.70 | 767.70 | 1,245.70 |
| Class II. Railroads .... | — | — | — | — |
| Class III. Railroads .... | — | — | — | — |
| Electric Railways ..... | — | 12.00 | 12.00 | 72.00 |
| Total | 385.70 | 536.70 | 772.70 | 1,317.70 |
| Southern District | | | | |
| Class I. Railroads..... | — | — | — | — |
| Class II. Railroads .... | — | 63.00 | 63.00 | 237.00 |
| Class III. Railroads.... | — | — | 63.00 | 237.00 |
| Electric Railways..... | — | — | — | — |
| Total | 0 | 63.00 | 126.00 | 474.00 |
| Western District | | | | |
| Class I. Railroads ..... | — | — | 368.00 | 301.00 |
| Class II. Railroads .... | — | — | — | — |
| Class III. Railroads.... | — | — | — | 335.00 |
| Electric Railways ..... | — | — | 75.00 | 75.00 |
| Total | — | — | 443.00 | 711.00 |
| Grand Total | 385.70 | 599.70 | 1,341.70 | 2,502.70 |

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— Data not available

## TABLE IV.

### INTERSTATE ROUTE MILEAGE

| | 1927 | 1928 | 1929 | 1930 (6 monthes) |
|---|---|---|---|---|
| Eastern District | | | | |
| Class I. Railroads..... | 1,718.70 | 2,705.20 | 4,301.90 | 5,862.50 |
| Class II. Railroads.... | — | — | 10.16 | 24.21 |
| Class III. Railroads ... | — | — | — | — |
| Electric Railways..... | — | 50.00 | 267.50 | 555.50 |
| Total | 1,718.70 | 2,705.20 | 4,579.56 | 6,442.21 |
| Southern District | | | | |
| Class I. Railroads..... | — | — | 110.50 | 110.50 |
| Class II. Railrouds.... | — | — | — | — |
| Class III. Railroads... | — | — | — | — |
| Electric Railways..... | — | — | — | — |
| Total | — | — | 110.50 | 110.50 |
| Western District | | | | |
| Class I. Railroads..... | 267.00 | 286.00 | 2,608.00 | 2,890.10 |
| Class II. Railroads.... | — | 80.00 | 80.00 | 299.00 |
| Class III. Railroads... | 330.00 | 330.00 | 335.00 | — |
| Electric Railways..... | — | 155.83 | 78.28 | 529.60 |
| Total | 597.00 | 851.83 | 3,101.28 | 3,618.70 |
| Grand Total | 2,315.70 | 3,557.03 | 7,791.34 | 10,171.41 |

— Data not available

## TABLE V

### FREIGHT TONNAGE HANDLED THROUGH CO-ORDINATED SERVICE

| | 1927 | 1928 | 1929 | 1930 (6 months) |
|---|---|---|---|---|
| Eastern District | | | | |
| Class I Railroads.... | 345,317 | 479,673 | 668,625 | 387,146 |
| Class II Railroads... | — | — | 220 | 1,372 |
| Class III Railroads .. | — | — | — | — |
| Electric Railways ... | — | — | — | 526 |
| Total | 345,317 | 479,673 | 668,845 | 389,042 |
| Southern District | | | | |
| Class I Railroads.... | — | — | 940 | 2,642 |
| Class II Railroads .... | — | — | — | — |
| Class III Railroads... | — | — | 11 | 11 |
| Electric Railways.... | — | — | — | — |
| Total | — | — | 951 | 2,653 |
| Western District | | | | |
| Class I Railroads.... | 3,401 | 8,746 | 24,007 | 23,471 |
| Class II Railroads... | — | 290 | 1,150 | 1,571 |
| Class III Railroads .. | 50 | 1,110 | 569 | 598 |
| Electric Railways.... | — | 574 | 1,057 | 4,236 |
| Total | 3,451 | 9,720 | 26,783 | 29,876 |
| Grand Total | 348,768 | 489,393 | 696,579 | 421,571 |

— Data not available

## TABLE VI

### FREIGHT REVENUE FROM
### CO-ORDINATED SERVICE.

| | 1927b | 1928 | 1929 | 1930 (6 months) |
|---|---|---|---|---|
| Eastern District | | | | |
| Class I Railroads.... | $1,271,119 | $1,669.316 | $2,298,115 | $1,209,059 |
| Class II Railroads ... | — | — | 1,244 | 4,168 |
| Class III Railroads... | — | — | — | — |
| Electric Railways.... | — | 20,991 | 408,312 | 263,720 |
| Total | $1,271,119 | $1,680,307 | $2,707,671 | $1,476,947 |
| Southern District | | | | |
| Class I Railroads.... | — | — | 11,251 | 7,757 |
| Class II Railroads... | — | 26,340 | 47,579 | 27,927 |
| Class III Railroads .. | 430 | 26,681 | 47,699 | 28,051 |
| Electric Railways.... | — | — | — | — |
| Total | 430 | 53,021 | 106,529 | 63,735 |
| Western District | | | | |
| Class I Railroads.... | 40,688 | 75,515 | 412,370 | 364,046 |
| Class II Railroads ... | — | 2,482 | 11,943 | 14,825 |
| Class III Railroads... | 1,951 | 49.110 | 59,154 | 3,5806 |
| Electric Railways.... | — | 17.700 | 22,767 | 31,026 |
| Total | 42,639 | 140,807 | 506,234 | 445,703 |
| Grand Total | $1,314,188 | $1,874,135 | $3,620,434 | $1,986,385 |

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— Data not available

# CHAPTER II

## METHODS OF CONDUCTING CO-ORDINATED RAIL-MOTOR TRANSPORTATION SERVICE

In Chapter I, the necessity of the co-ordination of motor truck and rail carriers in freight transportation was discussed. The present Chapter is an attempt to discuss the practical side of this problem,- how to accomplish coordination.? The importance of this question is self evident. Economical and efficient transportation service can be obtained only through proper arrangements, whereby these two agencies can work jointly for the common interest. There is, of course, no standard formula which can be generally applied. The only solution is the particular arrangement that can be adapted to the existing conditions in each case.

To solve this problem, two fundamentally different theories are propounded. One theory advocates the attainment of this goal through nationalization of all transportation agencies owned and operated by the state.(1) This method eliminates the wastefulness of the present competitive and disorganized system, and provides a definite plan to secure the public interest. The second theory holds that the same result can be obtained by voluntary coopration among the different agencies of transportation under proper state regulation, without involving the government in business. However, this difference in opinion is simply a matter of government policy, just as opinions differ with respect to the government and private ownership of railroads and other utilities. No matter what form is used, the underlying principle of co-ordination is essentially the same. In view of the traditional government policy with respect to railroad transportation and the efficient operation of railroad service under private ownership in this country, there would seem to be no reason for the government of the United States to alter its attitude upon private ownership. It is probably correct to say that the future development towards coordinated transport in the hinted states will be left to private owners of different agencies under government regulation.

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(1) Minutes of British Royal Commission on Transport, M 24.

Besides the method of nationalization, co-ordination of motor and rail may be achieved in a variety of ways, which broadly may be divided into three categories:

First, co-ordination may take the form of voluntary co-operation among various transportation agencies, each maintaining its separate identity. Under such arrangement each agency, acting as equal partner, may establish through rates and joint routes. This has the advantage of permitting freedom of development to both rail and motor truck services. The best example of this which can be found in this country is the joint rail-water service. Under the Interstate Commerce Act the Interstate Commerce Commission is empowered to approve the establishment of through routes and joint rates, and to prescribe division of rates between rail and water as well as between different rail carriers.(2)

Second, in case these agencies fail to reach voluntary agreements providing for joint services, the regulatory body, in order to conserve the public convenience and necessity, may act by setting up compulsory plans whereby various agencies would be required to compose their differences and to evolve systems of co-ordinated service. Again, the co-ordination of rail-water services may be used to illustrate the situation. The Interstate Commerce Commission has the power to require that physical connections be established between the lines of rail and water carriers.(3) This method, however, is used only where such connections are reasonably practicable. This may be termed statutory coordination.

Finally, co-ordination may be achieved through the establishment of trucking services by the railroads or through the financial control of such under takings by railroads. In this form trucking services are subsidiary or auxiliary to the railroad service. Its main advantage is that the railroads have complete control of the flexible motor instrumentalities which enable them to extend their services. This form of coordination is used extensively in the United States.

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(2) Transportation Act, 1920, Section 15 (3).

(3) Panama Canal Act, 1912, Section 11 Clause (a), Interstate Commerce Act, Section 6 (13) (a)

Some leading authorities on transportation express the opinion that this form of co-ordination is superior to the other methods outlined. In the recent hearings on this subject before the Interstate Commerce Commission, Examiner Flynn, who acted as the presiding Attorney Examiner, stated "while coordination may be to some extent effected between rail carriers and independently operated motor vehicle lines, it will fall far short of what can be accomplished if the rail and the motor-vehicle operations are under one management. The use of the established railroad organization, personnel, stations telegraph, telephone, and other existing rail facilities in connection with motor vehicle operation would not only make for efficiency of service but would obviate duplications and waste."(4)

Under the present state of law of the United States the first two methods are impracticable for bringing about the co-ordination of these two agencies of transportation insofar as they are engaged in interstate commerce. So far no federal regulation is exercised over the operation of motor carriers engaged in interstate commerce except when used in terminal services as agents of the rail carriers. The Interstate Commerce Act, which empowered the Commission to regulate common carriers engaged in the conveyance of passenger or property, does not include motor carriers in the list of carriers subject to federal regulation. The I.C.C. has jurisdiction over motor carriers only when they are engaged in terminal operations in conjunction with rail carriers subject to the terms of the Act.

As interpreted by the Interstate Commerce Commission the term "railroad" as it is used in the Interstate Commerce Act includes, among other things, terminal facilities of every kind used or necessary in the transportation of person or property.(5) Under this interpretation the provisions of the Act are applicable to services by motor or drayage transfer when these services can be regarded as terminal facilities, and the services are considered as part of rail service, so as to come within the regulatory power of the Commission. However, when services performed jointly by rail and motor agencies extend beyond the terminal districts or into line-haul movements, the Commission has no power to regulate them. No formal joint services and rates of rail and motor carriers have ever been madse subject to the supervision of the I. C. C. The reason is that motor carriers are not subject to the provisions of the Interstate Commerce Act and consequently can not legally be parties to joint tariffs.(6) The law does not prohibit the rail carriers from interchanging traffic and entering into proper arrangements with motor trucks. Joint tariffs may or may not be published, but joint rates and divisions may not be established.

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(4) I.C.C. Docket 23400, Examiner's Report, Sheet 113.

(5) 91 I.C.C. 543

The case of terminal trucking service is different. Here charges must be published in the rail carriers' tariffs just the same as charges for any other services furnished by the carriers as part of their transportation service. When the drayage charges are absorbed, the tariffs of the rail carriers must show the amounts of the charges absorbed and the conditions under which they are absorbed. Contracts under which the railroads employ trucking companies to perform terminal services for them must be filed with the Interstate Commerce Commission to prevent any suggestion of unjust discrimination.

## Through Routes and Joint Rates

The opinion of executives of rail carriers regarding the establishment of arrangements for through routes and joint rates with motor truck carriers are divided. Some favor this step while others oppose it. Representatives of carriers of the former group believe that such arrangements would not only benefit the shippers who know the total charges before the movement was commenced and have through billing instead of several bills issued by different carriers, but would also benefit the carrier by expediting the flow of traffic.(7) Others hold that the time is not ripe to take such a step, because under present conditions motor carriers generally do not have the accounting facilities necessary for the proper handling of inter-carrier accounting or the financial reserves needed to carry on such arrangements.

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(6) 91 I.C.C. 457

(7) I.C.C. Docket 23400, Examiner's Report, Sheet 91.

Even where such arrangements are desirable, a careful selection of the trucking agents is necessary. It would not be fair to compel rail carriers to join in through route and joint rate agreements with motor truck carriers regardless of size, financial responsibility, or territory served. Similarly, it would be impracticable to force moter carriers to participate in joint agreements with rail lines for transportation several hundred miles removed from points which the truck operators serve.

Even in intrastate commerce, where the motor common carriers often have the same standards as the railroad, no arrangements have been made to establish joint rates and through routes for rail-truck service. It is largely due to the instability of motor carriers, that the railroads can not afford to take the risk of entering into voluntary agreements with poorly managed concerns. Whether this form of co-ordination will develop in the future remains to be seen. Motor carriers are becoming stronger and more stable as time passes on. No doubt when further progress is made in this direction, railroads will be willing to make joint traffic arrangements. Therefore, at the present time the only form of co-ordination that has been extensively used in this country, is co-ordination effected through conducting trucking service directly or indirectly by railroad.

Varying practices are pursued by different railroad systems. In the second investigation on the co-ordination of motor and rail service conducted by the Interstate commerce Commission, Commissioner Brainerd classified these plans into four forms of operation according to their financial and managerial relationship:(9)

1. Direct operation, in which the railroads operate highway services as an integral part of rail operation and own the motor facilities.

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(8) Ibid, Sheet 92.

(9) I.C.C. Docket 23400, Vol. 1.

2. Contract service, in which the co-ordinating activity is performed by mutual consent through agreement. Usually, the trucking companies act as agents of railroads in the highway service.
3. Stock control plans which the railroads, through holding companies or other fiscal agencies, own the majority of the stock of some large truck companies in order to insure closer coorperation. The motor carriers perform trucking services for the railroads as contract agents.
4. Subsidiary companies, where trucking operations may be wholly owned and controlled by the parent railroad lines.

Among the four forms of operation, direct operation is very rarely used by the railroads in this country. Owing to the absence of proper legislation regarding the status of the motor carrier and its relations to other forms of transportation, most railroads doubt whether it is a wise step to enter into direct operation on a large scale, before Congress has laid down a definite policy with respect to motor regulation, There are few lines owning trucks used as supplements to their rail services. The Central Railroad of New Jersey operates a trucking service under the supervision of the suprintendent of operation, and it is a rare example of this type of operation.

By the stock control method, the railroad or railroads may acquire a majority or the whole of the stock of existing trucking concerns through holding companies in the same manner as the control of other rail lines is sometimes secured. For instance, the Pennsylvania Railroad controls 16 trucking concerns along its lines through the American Contract and Trust Company. The result of such operation is satisfactory. It was reported by the railroad that in 1930 the railroad made a net profit of more than $246,000 from the investment.(10) Strictly speaking, this forms of control can be considered either as a form of the subsidiary system or the contract system of co-ordination In all cases, the control of a subsidiary company is through the stock control method, and the controlled trucking concern performs services for the railroad under a contract similar to the arrangements made with independent trucking concerns.

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(10) I.C.C. Docket 23400, Record 4805, Testimony of J. F. Deasey for Pennsylvania Railroad.

The contract service and the subsidiary system used by the railroads in performing the rail-truck service should next be considered.

### Contract Trucking Arrangement.

In conducting co-ordinated rail-truck services, the railroads may make contracts with existing truckmen, either directly or indirectly. Under the direct contract method, the railroads employ the truckmen as their trucking agents; while under the indirect method of contracting, the railroads may negotiate with trucking companies through subsidiary companies. These differences are matters of management, the basic principles remaining unchanged.

### Advantages of Contract Trucking Arrangements.

There are many reasons in support of the contract system of co-ordinated service, according to the experience of railroads which have conducted successful experiments in this respect. In the first place, it saves both time and money necessary to start the service. Instead of a heavy investment in motor equipment and an organization of experts, the railroad may use the existing trucking concerns which already have the proper types of equipment and personnel. The operating costs of this service, when performed by contractors, are often lower than under direct railroad operation, because the trucking companies can make the load heavier and make the return trips loaded. In case of discontinuing trucking service the railroad would not suffer any loss as in the case of direct operation.

Secondly it avoids ruinous competition between rail and trucking carriers. This can be best explained by quoting the following statement made by one leading expert in supporting the contracting trucking service.(11)

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(11) Woodruff, G. C., Traffic Manager, New York Central Railroad, Proceedings of Motor Transport Division, 1928, p. 140.

> "It is needless to say that the railroad wishes to regain a portion of traffic which has been lost to the hands of truck carriers, but at the same time the rail carriers do not desire to disturb public sentiment in the communities along their lines. There may be some advantages in the direct operation of truck service for the rail lines so far as the railroad is concerned, but on the other hand, the opposition from the existing trucking carriers, both private and common, is too great to warrant such operation. It is very likely that keen competition between the truck carriers and the trucking organization of the railroad may lead to the following facts; truck rates too low for compensation of work, meager volume of traffic for remuneration. Under such circumstances, no one is benefited by such competition."

Thirdly, the contractors may act as traffic solicitors for the railroads. Instead of competing for traffic with each other the railroads and truckmen can work hand in hand. Under the contract system, both of them having a common interest in increasing traffic the truckmen will put forth their best efforts to solicit all possible tonnage in order to increase their revenues. For this reason many railroads pay a percentage of the freight rates to the contractors so as to stimulate their solicitation of business.(12) A typical case illustrates the importance of this practice. The New York Central System has made contracts with 142 trucking companies along its line from New York to Chicago. The trucking companies are productive solicitors at no extra expense to the railroad.

Lastly, the contract system of rail-motor co-ordination eliminates labor disputes. Rigid regulations governing the workhours of the railroad employees have been imposed upon the railroads by regulatory legislation in interstate and intrastate commerce. Strong brotherhoods or labor unions of railroad workers have been formed to safeguard the welfare of railroad workers. Some railroads prefer the contracting trucking service to direct operation in order to be free from labor disputes. The difference in wages paid to railroad employees and to motor operators is appalling. During the recent investigation made by the Interstate Commerce Commission, one witness testified that bus drivers were paid no more than railroad porters, or at the rate of $4.00 per day.(13) Where the railroads operate trucking services under their own management, the wages of the drivers and helpers must be on the same level as that of the railroad employees, thus it would be impossible to compete with the independent trucking carriers.

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(12) Wilson, G. L., Cogd Co-ordinated Motor-Rail-Steamship Transportation, Chaper XVI. p. 205.

(13) Duncan, C. S., Problems of Rail-Highway Transportation, p. 94.

Trucking concerns, as a rule, are benefitted by contracts with the railroads. The keen competition among the local trucking concerns makes motor vehicle operation financially hazardous and traffic difficult to get. Many trucking companies are operating upon a deficit basis; their facilities are partially used, and unbalanced traffic movement results in empty return trips. This situation is sometimes corrected through a trucking contract with a railroad. No matter how small the volume of traffic may be, the truckman is benefitted by obtaining an additional volume of traffic which is constant and stable. In most cases, the truckman can use his existing facilities more extensively to handle this traffic. Thus, the unit costs can be reduced to a minimum.

### Centralized Negotiation Power and Uniform Contract Terms.

In negotiating contracts with independent trucking concerns, the railroads may either authorize each division superintendent to make these arrangements, or reserve this power to the general office. Under the latter method the contracts are made through the heads of the railroads' legal departments or operation departments. Although both methods have been used extensively by large railroads, past experience has shown that the centralized type is more desirable. The practice of the New York Central System serves as an example.(14) Prior to the year 1929, the power of negotiating centracts with the trucking companies was given to each divisional officer on the N.Y.C. System. Naturally, each division considered only the needs within its territory, thereby causing diversity in the adjustment of settlements, rate bases, and many other contract terms. In handling interdivision traffic, disputes often arose from the different rate bases provided for in different contracts. This convinced the railroad management that a simplified and standard contract was not only desirable but necessary. Accordingly, a standard form was drawn by the legal department of the system leaving only a few terms to be modified in accordance with local conditions. Before an agreement is made for trucking service in any division, the legal department studies the terms, and makes them as uniform as possible. It saves time and trouble in conducting the services and facilitates the settlement of disputes.

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(14) Prodeedings of the Motor Transport Division of American Railway Association, 1928, p. 141.

Equipment.

The type of equipment used in truck operation is of vital importance to the success of co-ordinated service, and deserves serious consideration by the railroads before they enter into contracts with truckmen. Many trucking companies are ignorant of the true costs of operation. Some prefer to use second-hand equipment in order to reduce the initial investment. Not only are maintenance and operating expenses often unduly high due to inferior equipment, but the service is sometimes unreliable. The movement of goods may be delayed en route by extra repairs, while in other cases the shipments may be damaged by joggling,-in either case the efficiency of the service is impaired to an extent that cannot be accurately calculated in terms of dollars and cents. In view of these defects many railroads specify in their contracts that certain high standard equipment must be used by their contractors in trucking operations. Both parties are benefited by this requirement; the railroads are the beneficiaries of efficient and dependable service, and the truck companies profit from the reduction of operating and maintenance expenses.(15)

The standardization of equipment of several contractors should also be taken into consideration in case the railroad employes more than one trucking company in the coordinated service. A typical case serves to illustrate the purposes of this requirement.(16) Formerly, a leading eastern railroad made contracts with local trucking companies on a divisional basis, and no requirements were made as to the standardization of equipment. As a result, several types of trailers with different coupling devices were used in the co-ordinated service. When freight originating on one division was moved to another, in most cases, the shipments had to be unloaded at the border line and reloaded on another trailer used by a different truckman, because they were not interchangeable due to differences in construction. This plan of operation meant an increase in operating costs and delays in traffic movement. To remedy these defects, the railroad has made several attempts in educating its contractors to use trailers with standard coupling devices. It is reported that up to 1928, almost all the contractors of that railroad used the same type of equipment in performing the trucking service. Inter-divisional traffic movements can now be handled by exchanging trailers at the border line and the unnecessary loading and unloading of the trailers are avoided, thereby securing quicker service at less cost.

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(15) Ibid, p. 137.
(16) Ibid, p. 138.

### Accuracy and Promptness of Trucking Service.

The most important factors in efficient motor operation are accuracy and promptness. The railroads must have guarantees from their contractors to insure these results. For this purpose a clause is usually introduced in the contracts for line-haul service to the effect that the trucking company must perform the service in accordance with the directions of the railroad officials who are in charge of the operations, so that in every possible way the truck schedule and train schedules may be dovetailed. In terminal operation the contracting truckmen may be subject to a restriction similar to the following clause: providing that "in any event the shipment shall be delivered to the consignee or the railroad within two hours after the freight is availabe for the truckman."(17) In case the contracting truckmen fail to comply with this requirement, they are responsible for any loss and damage which may occur. Furthermore, in working out the common interests, due consideration should be given by the rail and truck carriers to any and all improvements, devices, or arrangements to facilitate the service.(18)

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(17) I.C.C. Docket 23400, Vol. 3, Record 618

### Legal Obligation of the Trucking Contractor.

When the co-ordinated service are performed through the contract system, it is a general rule that the contracting truckman furnishes adequate and suitable equipment and personnel in conducting the services. It is the duty of the trucking contractor to put himself in a position of readiness to meet all traffic expansion required by the railroad. Legally, the trucking company is the agent of the railroad while handling freight in conjunction with rail service. It performs its services in conformity with all published tariffs and regulations of the railroad. When receiving freight from shippers, the employees of the trucking company must issue proper receipts, collect freight charges according to the regular tariff, if it is prepaid, and furnish the necessary shipping orders to the railroad. In connection with inbound traffic, the truckman are required to make prompt delivery and collect all freight or storage charges. All collections must be remitted to the railroad within the period of time agreed for in the contract. Unless otherwise contracted, the trucking company is legaly obligated to haul any kind of traffic, tendered by the railroad.(19)

The railroad has indirect control over the employees of its contractor. In case the performance of truck drivers or helpers is not satisfactory, the railroad may request the trucking company to remove such employees.(20)

### Responsibility for Loss, Damage, and Personal Injury.

While shipments are in the custody of the trucking company, it assumes full responsibility for any loss or damage to the goods, caused by the negligence of failure of the company or its employees. The term "damages" includes physical, market, and other species of loss, damage, injury or depreciation for which the railroad is liable in the carriage of freight.(21) When the trucking company performs terminal services for the railroad, its responsibility for all inbound freight begins as soon as the shipments are loaded into its vehicles or are placed on the platform which is designated for loading and unloading work of the contractor, and continues until the shipments have been duly received by the proper receivers. In connection with outbound freight, liability starts from the delivery of the goods to the contractor, and ends when the freight has been accepted by the railroad.(22) It is understood in certain cases that the contractor shall reimburse the railroad any amount paid for loss and damage which was caused by a failure of the trucking company. In other cases, the liability of the trucking carrier may be limited to a definite amount. In the contracts between the Pennsylvania Railroad and its trucking agents, the latter are in no case liable for any amount over $200 per trip between definite termini.(23)

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(18) 155 I.C.C. 177

(19) I.C.C. Docket 19715, Record 1275.

(20) I.C.C. Docket 23400, Vol. 19. Testimony of J. F. Deasey for the Pennsylvania Railroad.

For the purpose of insuring the prompt and faithful service of the trucking company and of protecting the railroad from loss and damage due to the failure of the truckmen, it is usually required that a certain amount of insurance must be carried by the contractor to the satisfaction of the railroad. The trucking company pays the premium on the insurance and must keep the policies in effect throughout the term of the contract. The following clause, taken from a typical contract, serves as an illustration:(24)

> The truck company agrees to furnish liability insurance policies in such amount as the officials of the railroad may approve, covering the operation of trucks or vehicles. And in case the railroad shall require it, trucking company agrees to provide for workmen's compensation insurance for its employes.

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(21) 155 I.C.C. 175

(22) 155 I.C.C. 174

(23) I.C.C. Docket 234,00, Vol. 19. Testimony of J.F. Deasey for P.R.R.

(24) I.C.C. Docket 13400, Contract between B. & M. R.R. and the Big Three Inc.

Besides the insurance policy the railroad may require the trucking company to furnish a bond or other security. The same contract provides:(25)

> The trucking company agrees to furnish to the railroad a bond with surety or security to be approved by the officials of the railroad, in the sum of $25,000, or else to furnish other satisfactory security. The said bond or security is to indemnify and protect the railroad... against any loss or damage to the shipments while in the possession of the trucking company, arising from any cause including theft, fire, loss, and delay due to fault or negligence of the trucking company........... Said bond or security is also to protect and indemnify the railroad against any loss that it may sustain on account of the failure of the agents or employees of the trucking company to collect any account in connection with such shipments handled by the trucking company.

Trucking rates.

In compensation for trucking service performed, the railroads agree to pay the trucking contractors according to certain stipulated basis. There are numerous ways in determining the rates paid the trucking companies due to the different practices prevailing in different localities. Briefly, they may be summarized under the following five headings:

1. Mileage basis.—Regardless of the volume of traffic handled per truck, the payment for the trucking service may be calculated on a mileage basis, i.e. a certain sum per truck-mile. Two different methods for determining mileage are used; one is based upon the distance actually traveled by each truck, the other upon an arbitrary distance between points as fixed in the contracts. The latter method can be used only over definite routes. For instance, the Pennsylvania Railroad uses the latter method in calculating trucking payments. In the trucking in lieu of way-train service, the distance of the truck routes between two stations is fixed approximately equal to the rail distance. Two reasons are given for the use of this method.(26) On one hand, the motor company gets guaranteed earnings which do not vary with seasonal traffic

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(25) Ibid, Articles, 5.

(26) Proceedings of the Motor Transport Division of American Railway Association, 1928, p. 123.

fluctuation. On the other, this is the simplest way of calculation and saves a great deal of labor in the accounting department.

2. Ton-mile basis.—Computation of trucking charges may be on the ton-mile basis, i.e. a fixed sum per ton-mile of truck operation. Again, the tonnage of traffic may be calculated either on the weight of freight actually handled or on an agreed tonnage per vehicle. For instance, the method of calculating tonnage by a western line is as follows: a 4-wheel truck and a 4-wheel trailer are counted as 44,000 pounds of freight.(27)

3. Tonnage basis.—This method is used only in terminal areas. Without calculating the distance, the trucking charges are based on the weight of freight handled, i. e. a certain sum per hundred weight.

4. Rental basis.—Trucking charges may be figured on a lump sum for each truck unit per day or per month, regardless of the distance traveled and weight of freight handled. In this way the trucking company supplies a certain number of trucks, tractors, and trailers to the railroad, as fixed in the contract. In case any extra equipment is required, a special rate is paid for it. For instance, the following rates are arranged between an Eastern railroad and its trucking contractor:(28)

5-ton truck $468 per month (including drivers' wages)

2-ton truck $390 „ „ „ „ „

Rates for extra equipment:

5-ton truck $18 per day (including drivers' wages)

2-ton truck $15 „ „ „ „ „

5. Hour and mileage basis.—The Boston and Maine Transportation Company makes payments to the trucking contractors for use of equipment on the combined hour and mileage basis. In addition to a certain rental per

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(27) Spokane, Portland, & Seattle Railroad.

(28) I.C.C. Docket 23400, Contract between the Pennsylvania and Scott Brothers Company.

hour, there is a payment for distance traveled. The rate varies according to the loading capacity of the vehicles, as follows:(29)

| | 1½-2½ ton truck | 3-5 ton truck | 5½-7 ton truck |
|---|---|---|---|
| per hour | $ 1.27 | $ 1.45 | $ 1.49 |
| per mile | .16 | .21 | .27 |

Guarantee Clause.

For the purpose of protecting the trucking contractors from undue fluctuation in freight flow, there is generally inserted in the contracts a guarantee clause, under which the railroad guarantees a minimum amount of return on a certain basis to its contractor in case the actual performance is below the guaranteed amount. The minimum may be changed from time to time, if both parties agree to do so. Briefly, the following bases are commonly used between rail and motor carriers:

1. Guaranteed minimum mileage basis;- a certain number of miles per day, per week, or per month are guaranteed by the railroad.
2. Guaranteed minimum tonnage basis.- a certain weight of freight is offered to the contractor daily, weekly, or monthly.
3. Guaranteed minimum equipment to be used in a certain period;- a certain number of tractors, trucks, and trailers should be used daily, weekly, or monthly.
4. Guaranteed minimum working hour per unit of equipment; a minimum working hour for each truck, tractor, and trailer per day, per week, or per month.

Some railroads oppose the guarantee basis on the ground that when this clause is introduced in the contract the contractor, intending to get the maximum amount of return from the railroad, will try to use the equipment as many times or as long as possible in handling a given amount of freight. Under such conditions the actual payment by the railroad will usually be higher than the fixed rate, due to the wasteful use of trucking equipment by the contractor. For instance, the New York Central Railroad formerly had a contract with a trucking company with a guaranteed minimum load per truck basis. At the end of a year a study of the operating cost revealed the fact that instead of paying the fixed rates at 15% per cwt. the actual payment by the railroad was 28% per cwt., due to insufficient tonnage to make up a truck load.(30) In a contract without a guarantee clause the rate is fixed at 18% per cwt., and the total expense is calculated exactly on that basis and no more. From this experience the New York Central System has adopted a policy, in making contract with a trucking carrier, that no guarantee of any nature is introduced in the contracts.

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(29) Ibid, Testimony of Boston and Maine Railroad.

### Termination of Contract.

In some contracts there are clauses regarding the rights and obligations of each party in case the agreements are terminated before their expiration dates. These clauses are drawn on many different bases. The following clause contained in an agreement between an Eastern railroad and its trucking agent may serve as an illustration. It provides that:

> If for any reason either party hereto desires to terminate this agreement, said agreement may be cancelled upon any day by either party giving to the other party a sixty days' notice in writing of its intention to terminate.(31)

In order to safeguard the trucking agent from any loss resulting from such a cancellation, a clause is inserted in this contract to the effect that, in case the termination is proposed by the railroad, it is the obligation of the latter to purchase the equipment of the trucking company which has been regularly used for co-ordinated service, upon the following basis:

> On new equipment purchased by the trucking company subsequent to the date of the agreement:

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(30) Proceeding of the Motor Tasnsport Division of American Railway Association, 1928, p. 138.

(31) I. C. C. Docket 23400, contract between B. & M. Transportation Company and Big Three Trucking Incorporated.

> During the first year at the depreciated value of the equipment, plus 5% of its original price.
>
> During the second year at the depreciated value, plus 10% of its original price.
>
> During the third year at the depreciated value, plus 15% of its original price.
>
> During the fourth and fifth years and at any time thereafter at the depreciated value of the equipment, if not fully depreciated, plus 20% of the original purchased price, if fully depreciated at 20% of the original price.
>
> The depreciated value shall be arrived by computing depreciation as follows:
>
> Trucks—20% per year.
> Tractors—25% per year.
> Trailers—15% per year.

## Advantages of Subsidiary Companies.

Some railroads believe that raillines should control their trucking services as well as the franchise rights of motor routes in the operation of co-ordinated services, so that the rali carrier may be in a better position to offer a variety of service and gain a substantial saving in the use of existing railroad premises, both for terminal work and also for garaging. There is also a possibility of reducing operating costs in motor operation through large scale purchasing and operation. For the shipping public it is always of considerable advantage to deal with one responsible agency which offers all kinds of transportation services that may fit traffic needs.

The Association of Railway Executives strongly advocates the operation of motor vehicles by the railroads themselves:(32)

> Many of the rail carriers are of the opinion that, in order for them to participate fairly in transportation, it will be necessary for them to operate, either directly or through a subsidiary or otherwise, motor vehicles on the highways.
>
> In fact, the railroad operation of such a service is much preferred by many of the users of highway transportation and is likely to superior to that offered by others, by reason of the greater experience of the railroads in transportation, of the training of their managers in organization, of their resources and responsibility, and of their ability to quickly and successfully co-ordinate into a single transportation service rail and motor agencies.

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(32) I.C.C. Docket 23400, Brief on Behalf of the Association of Railway Executives, p. 21.

## Is the Truck Operation Through a Subsidiary Company a Railroad Operation?

As stated above, the interpretation of the Interstate Commerce Commission is that trucking services within the rail terminal areas are considered as parts of the rail transportation service, whether the trucking service is performed by the railroad itself or under a contract and that they are subject to the jurisdiction of the Commission.(33) Therefore, the charges to the public for the terminal truck service must be published in tariffs just as the charges for any other rail service, and the contracts under which the railroads employ the truck companies to perform terminal service must also be filed with the Commission in order to prevent any suggestion of unjust and unreasonable discrimination. The question whether the trucking service in line-haul is a railroad operation remains to be decided. Under the present laws, the I.C.C. has declared that when the operation goes beyond the terminal area it is outside of the jurisdiction of the Commission. At present most of the co-ordinated line-haul service takes the form either of substituting rail service or of the "express freight type of operation". In the latter type the railroads act as agents of their subsidiary companies to perform the line haul service and legally have no relationship with the shipping public.

## Legality of the Railroad Operating Motor Subsidiary Company.

The first test case to determine whether it is lawful for the railroad to maintain motor subsidiary companies supplementary to railroad service was the case of Jaloff v. Spokane, Portland, and Seattle Railroad.(34) In July, 1924, the railroad organized a subsidiary company, the Spokane, Portland, & Seattle Transportation Company, to engage in motor transportation of persons and property within the territory served by the railroad. Since some of the motor routes were parallel to the line of the Jaloff Bus Company from Portland to Astoria, the motor carrier was loath to see railroad enters into this field in direct competition with it. Accordingly, a petition was filed with the I. C. C., protesting that the railroad's action was unlawful on the following grounds:

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(33) 91 I.C.C. 547.

(34) 152 I.C.C. 758

It was contended that the extension of rail service to a new field through the subsidiary company without having secured a certificate of public convenience and necessity from the Commission was illegal. Under the Interstate Commerce Act no railroad is permitted to extend its line without first securing a certificate of convenience and necessity from the Commission. This certificate is issued only when the Commission is convinced that public interest requires such extension. It was argued that it was unlawful for the railroad, under the subterfuge of the subsidiary company, to extend its lines to points where no rail service existed. The commission held that such extension does not violate the Interstate Commerce Act. In a previous decision(35) the Commission found that its jurisdiction does not cover trucking service which extends beyond a terminal district and has become what is commonly called a line-haul service, which may in effect act as an extension of the line of a rail or water carrier. The Commission held that the operation of motor service of this character should not be construed as within the meaning of the Act.(36)

Secondly it was argued that the improper diversion of railroad revenue to other channels not within the scope of the railroad, violates the spirit of the recapture clause of the Transportation Act. In this case the railroad furnished all the capital of the subsidiary company and advanced a large amount of money to the latter to buy equipment. In refuting this argument the commission held:(37)

> The investment of a railway company's fund in the stock of the transportation company and loans made to the latter are charged on the railroad company books to the account of investment in affiliated companies. No charge has been made to the railway operating expenses by reason of advance made to the transportation company... The record does not disclose a violation of the provision of the Act relating to the recapture by the government of excess earnings.

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(35) 91 I. C. C. 539

(36) 152 I. C. C. 758

(37) Ibid

Another objection to the operation of a motor subsidiary company by the railroad is based upon the assumption that the action taken by the railroad is for the purpose of eliminating the competitive force and so tends to maintain a monopoly in transportation service, thus, violating the Clayton Act.(38) It is provided in the Clayton Act:(39)

> No corporation engaged in interstate or foreign commerce shall acquire directly or indirectly, all or any part of the capital stock of another corporation or other corporations also engaged in such commerce where the effect of such acquisition may be to lessen substantially the competition between such corporations or to restrain such commerce in any section or community or tend to creat a monopoly in any line of commerce. It also provides that a corporation engaged in interstate or foreign commerce may form subsidiary corporation for the actual carrying of its immediate lawful business.......When the effect thereof is not to lessen competition substantially.

To the foregoing contention no definite answer could be given before Congress has announced a policy in regard to motor operation engaged in the interstate commerce. However, the trend of legislation on transportation seems to liberalize this restriction where required in the public interest. The law now permits the consolidation of two or more carriers subject to the Interstate Commerce Act, if, after a hearing, the Commission finds that the public interest will be promoted by such consolidation.(40) The same principle could be applied to the co-ordination of motor and rail service where public interest warrants such action.(41) The Commission has endorsed the soundness of this view in its report on the first investigation into motor transportation practices.(42)

> Railroads, whether steam or electric, and water carriers, subject to the Interstate Commerce Act, should be authorized to engaged in interstate commerce by motor vehicles on the public highways....To the extent that a certificate of public convenience and necessity is

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(38) I. C. C. Docket 23400, Brief on Behalf of Interstate Motor Carriers, Association, p. 17.

(39) Clayton Act, Section 7, and Section 8.

(40) Transportation Act, Section 5.

(41) I. C. C. Docket 23400, Examiner's Report, Sheet 113.

(42) 140 I. C. C. 745

> an antecedent to the operation of other common carrier motor vehicles, steam and electric railroads, and water carriers, subject to the Interstate Commerce Act, should be required to obtain a certificate of public convenience and necessity in like manner.

It is a general requirement of the state public utility commissions that it is unlawful for the railroads to operate motor service through subsidiary companies, without the approval of respective state commissions. For instance, the Massachusetts Public Utility Commission handed down a decision declaring that the New York, New Haven, & Hartford and the Boston and Maine Railroads, through their highway subsidiaries, are illegally operating motor trucks for the transportation of freight on the highways of the state:(43)

> We are of the opinion that the railroad is maintaining and operating motor vehicles not running upon the rails or tracks for the transportation of freight within this commonwealth without the approval of the commonwealth. Chapter 125 of the Acts of 1925, by implication, at least, provides that railroads shall not maintain and operate motor vehicles upon the highways of this commonwealth (Massachusetts) except with the approval of the department, as in the opinion of the department, public convenience and necessity may require.
>
> We do not believe that the obligation imposed upon the railroad by Chapter 125 can be avoided by the railroad establishing a subsidiary which it absolutely dominates and controls.

## Purpose of Organizing Trucking Service.

Since the incentive for establishing subsidiary motor transport companies by railroads is either to offer better service or to attract more traffic for the benefit of the parent lines through the co-ordinated service, the pecuniary gain of the subsidiary is not of primary importance. In certain cases, the subsidiary company may be operated at a loss, and the parent lines make loans to the subsidiary companies to make good such deficits. For instance, a typical subsidiary transportation company of an Eastern railroad has been operating on an unremunerative basis since its establishment, with the exception of one year. The following figures are significant:(44)

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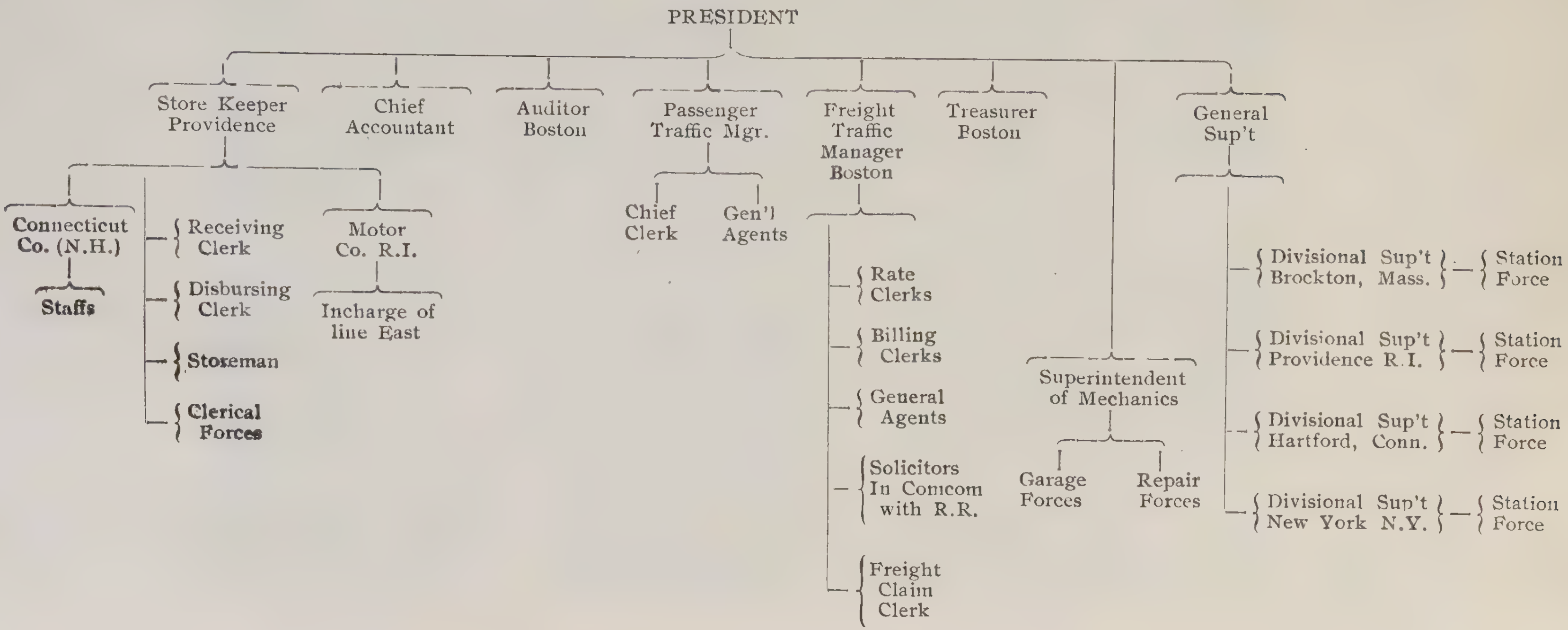
(43)

(44) I. C. C. Docket 23400, Boston Hearing, testified by B. & M. R. R.

# ORGANIZATION CHART OF THE NEW ENGLISH TRANSPORTATION COMPANY


PRESIDENT
Store Keeper Providence
Chief Accountant
Auditor Boston
Passenger Traffic Mgr.
Freight Traffic Manager Boston
Treasurer Boston
General Sup't
Connecticut Co. (N.H.)
Staffs
Receiving Clerk
Disbursing Clerk
Storeman
Clerical Forces
Motor Co. R.I.
Incharge of line East
Chief Clerk
Gen'l Agents
Rate Clerks
Billing Clerks
General Agents
Solicitors In Comcom with R.R.
Freight Claim Clerk
Superintendent of Mechanics
Garage Forces
Repair Forces
Divisional Sup't Brockton, Mass.
Station Force
Divisional Sup't Providence R.I.
Station Force
Divisional Sup't Hartford, Conn.
Station Force
Divisional Sup't New York N.Y.
Station Force

| | | |
|---|---|---|
| May-Dec. — 1925 | $ 5,335 | loss |
| Jan - Dec. — 1926 | 22,574 | „ |
| Jan - Dec. — 1927 | 18,854 | profit |
| Jan - Dec. — 1928 | 21,479 | Loss |
| Jan - Dec. — 1929 | 40,506 | „ |
| Jan - Dec. — 1930 | 15,152 | „ |

However, from the standpoint of the railroad the picture is not so dreary as it appears. The same railroad testified that by using motor services in lieu of way trains and other short haul movements, a reduction of railroad operating expense of about $ 190,000 every year is effected. There is a net gain from such operation, even after defraying the deficit of the subsidiary company. This may explain why the railroad is willing to operate a motor subsidiary upon a deficit basis.(45)

### The Charters of the Subsidiary Companies.

Excepting for its financial relation with the parent railroad, the subsidiary trucking company possesses the same legal status as any other independent trucking concern. In performing intrastate business, it must, in most instances, acquire from the state regulatory body a charter or a certificate of public convenience and necessity, according to the state law, before going into business. Generally speaking, its functions as stipulated in the charter are broad enough to engage in all kinds of motor service within a definite territory, and sometimes even including the operation of air transportation.

### Organization

There are no great differences between the organization of subsidiary and independent trucking companies, with the exception that the former can use the existing organization of the parent lines and a part of the administrative work is performed by the parent railroads. Organization also varies according to the operating method of the companies. In case the subsidiary companies choose to operate the trucks directly and own all equipment, it is necessary for them to have, in addition to operating and traffic departments, maintenance departments and garage departments to take care of all maintaining and storing of equipment. The situation is simpler if the subsidiary companies entrust the trucking operation to existing trucking concerns. Under such arrangements, all the maintenance work and a part of the transportation work are performed by the contractors.

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(45) Ibid.

The organization chart of the New England Transportation Company may serve as an illustration of a railroad trucking subsidiary. This company, owning and operating all motor vehicles, is considered to be one of the largest subsidiaries in the Eastern territory.(46)

Interlocking Official System.

In order to co-operate more closely, the interlocking official system is commonly used between the railroads and their trucking subsidiaries. In most cases, all the important officials of the subsidiary companies are employees of the parent railroads. Sometimes even their salaries are paid by the railroads, and the trucking subsidiaries may or may not pay any compensation to them.(47) The Wilson Transportation Company, a subsidiary of the Chicago, St. Paul, Milwaukee and Omaha Railroad, illustrates the plan of organization under which many railroad officers hold positions in both railroad and trucking companies:(48)

| *Position with the Railroad* | *Position with the Motor Transportation Company* |
|---|---|
| Vice-president & General Manager | Chairman of the Board of Directors |
| Vice-president in Charge of Traffic | Vice-president |
| Treasurer | Treasurer |
| Assistant Secretary | Secretary |
| General Auditor | Director |
| General Attorney | Director |

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(46) Drawn from the letter of Mr. J. A. Cummingham, Traffic Manager of the New England Transportation Company, dated Feb. 4, 1932.

(47) I. C. C. Docket 23400, Record 3076.

(48) Ibid.

## Cooperative Function with Railroad Departments.

Cooperative functions include the activities performed jointly by the subsidiary companies and the railroads' existing departments. The principal purpose of the railroads in operating trucking companies is to retain or regain traffic by improved co-ordinated service. It is necessary, therefore, for the railroads to control a portion of the trucking operation in order to achieve maximum benefits.

Graphically, the cooperative functions of these organizations may be shown as follows:

| **Railroad** | **Motor Subsidiary Company** |
|---|---|
| Traffic Department | Traffic Department |
| Traffic Manager | Traffic Manager |
| Freight Agents | Freight Agents |
| Freight Solicitors | Freight Solicitors |
| Freight Claim Department | Freight Claim Clerks |
| Operating Department | Operating Department |
| Vice-president in Charge of Operation | Suprintendent of Transportation |
| Divisional superintendents | Division Superintendents |
| Station Forces | Station Forces |
| Purchasing and Storing Department | Storekeeper |
| Treasury Department | Treasurer |
| Auditor Department | General Auditor |
| Law Department | President |
| Accounting Department | Accountants |

### Traffic Department

In the order of its importance, the cooperative functions of the traffic departments come first. The officers of both organizations must keep close contact with each other so that they can work hand in hand for the common good. It is not unusual for the trucking tariffs to be approved by the Traffic of the railroad before being put into effective. The matter of fixing trucking rates is rather complicated. They should be low enough to attract traffic in competing with independent trucking concerns and at the same time high enough to be remunerative, if possible. In regard to the arrangement for interchanging traffic between these two agencies,-either the railroad performs the line-haul service for the subsidiary, or vice versa. It is the duty of the traffic departments to determine the division of rates and also the regulations governing the method of handling traffic. Trucking routes will be detemined jointly by these two departments, whether they should be parallel to the rail or radiating from important commercial centers. In soliciting traffic the railroad may employ its own traffic solicitors to perform the service for the trucking company or assign members of the railroad solicitation staff to assist the subsidiary trucking company. However, some railroads prefer the separation of soliciting force,(49) each working individually and sometimes even competing with each other, on the ground that such competition will stimulate the interest of freight solicitors. As a result, both companies profit from the increase of new traffic which should be far more than the saving derived from the joint use of a single staff.

Operating Department.

To perform the coordinated service efficiently, the work of the operating departments of these two agencies is of great importance. Trucking schedules should be arranged in such a way as to dovetail with the railroad movement. so that outbound traffic can be hauled out on freight trains as soon as it reaches the station and inbound freight can be distributed to the consignees without delay. This can be made possible only through the collaboration of the operating departments of both organizations. Besides, the coherence of the service, the traffic conditions and the commercial practices in the locality served by the two agencies must be taken into consideration. In case the volume of traffic has been increased or the commercial practices changed, the two departments should determine whether any new trains or truck routes should be added, or the existing schedules altered to meet requirements.

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(49) The Wilson Transportation Company.

## Joint Use of Railroad Station Agents and Facilities.

The joint use of the railroad station agents and station facilities by the railroad and its subsidiary company creates a closer relationship between these two carriers. It is usually stipulated in the contract that(50) the station agents of the railroad shall also act as the agents of the subsidiary company in handling the coordinated service. In return for such additional responsibility a reasonable and fair compensation is paid by the subsidiary company to the employees. In case it becomes necessary for the railroad to employ additional force due solely to the handling of the subsidiary's business, the latter shall reimburse all the additional expenses so incurred. Railroad station facilities may be used by the subsidiary company on the lease basis; for instance, a certain number of square feet of warehouse space, or a certain length of tracks may be leased by the subsidiary under terms agreed to by both parties. It is not unusual for the railroad to grant the subsidiary the right to use the land of the railroad for the erection of any facilities which may be needed in the operation of coordinated service.(51)

## Cooperative Functions with Other Departments.

The vice president of the railroad in charge of purchasing and storage may also purchase new equipment and materials for the subsidiary company, in order to secure economy through large scale buying. Under him is a storekeeper, the employee of the transportation company, in direct charge of the storing work. When equipment or material is needed the storekeeper sends a requisition to the purchasing department.

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50. I.C.C. Docket 23400, Exhibit 310, Article II.

51. Ibid., Article VI.

Besides the three most important departments, there are numerous other functions jointly performed by these two companies. Although the accounts of the motor transportation company are kept separately, they are subject to examinatien and audit by the auditing and accounting departments of the railroad, The same relation exists with the treasury department in the handling of financial transactions. At the end of the fiscal year, the financial statements prepared by the motor transportation company are audited by the railroad, whereupon the division of profit between these two agencies is determined. In certain cases, even the credit and finances of the railroad organization may be placed at the service of the subsidiary company. Usually the motor trans-portation company does not maintain a freight claim department. Claims for indemnity are settled by the railroal freight claim department. When the motor transportation company deals with legal questions, or makes contract with other companies, the aid of the railroad legal department is necessary.

### Compensation for Rail Service Performed by Railroad for its Subsidiary Company.

Under contract the subsidiary company may perform trucking service for its parent line both in terminal and in line-haul movements, while the railroad may perform rail service for its subsidary company in handling goods for destinations not served by the motor truck routes. There are numerous ways of determining the compensation for such services.

Breifly, there are four methods in calculating the compensation for rail service, these may be stated as follows:

1. Fixed percentage of rail class rate. Regardless of the class of freight handled the railroad receives a fixed percentage of certain rail class rate per hundredweight as its return. The practice ot the Missouri Pacific Railroad may be taken as an illustration.(52) Under the contract the railroads receive 101% of the regular 4th class rates

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(52) I. C. C. Docket 234000, St. Louis Hearing.

for the line haul service performed no matter what class of traffic is handled. This basis is reached upon the past experience that the average rail rate of all traffic in that territory is about 101% of the 4th class rate. This arrangement was approved by the Railroad Commission of Texas for the traffic movement within that state.

2. Regular rail rates. Another method for settlement uses as its basis the regular rail rate on all shipments tendered by the subsidiary company. Usually this scale is applied only to the interstate traffic because the railroad fears that the departure from tariff rates may involve legal disputes.

3. Ton-mile basis. The subsidiary company pays the railroad at an agreed amount per ton-mile, regardless of the classification of the freight handled.

4. Profit sharing basis. Another basis may be termed as the profit sharing basis, under which the railroad receives a certain percentage of the net profit derived from the co-ordinated service. To determine the net profit of the co-ordinated service, a certain formula is laid down in the contract between the parent line and the subsidiary trucking company.

The case of the Northwest Transportation Company may be used as an illustration.(53) Under this arrangement the net profit or the "income for division," as they term it, may be reached by deducting the following items from the gross revenue:

> 1. The operating expenses of the co-ordinated service will be ascertained by the proportion of its tonnage to the total tonnage of the trucking company.
>
> 2. 10% of the operating expense should be assigned to contingency and unassignable expenses.

Then the remainder is the net profit of the co-ordinated service, and from this item the trucking company receives an amount equal to 8% annually of the investment in the property, equipment, and other capital of the company, the remaining balance being turned over to the railroad as compensation for the rail service performed for the trucking company.

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(53) Contract between Oregon Electric Railway Co. and Northwest Transportation Company; I. C. C. Docket 23400, Exhibit 301

### Compensation for Truck Service Performed by the Subsidiary Company for its Parent Road.

In compensating for the trucking service, the railroad may pay its subsidiary according to a tonnage or mileage basis, or upon a more complicated basis devised by some railroads, which may be termed as the "expense-sharing" method. For example, the New England Transportation Company uses this method in adjusting the trucking charge on its parent railroad. The method may be briefly stated as follows: supposing 50 per cent of the tonnage in a truck is railroad traffic, then 50 per cent of the operating cost is charged on the railroad's account. When a truck is loaded 100 per cent with railroad traffic the expense for the return trip is also charged on the railroad account, no matter whether it be loaded or empty. Every driver is required to make a daily report of the mileage traveled and the tonnage handled. Upon this basis the auditing department of the trucking company may calculate the total operating expenses which should be borne by the railroad. In addition to the total operating expenses the railroad pays 10 per cent more as the profit of the transportation company.

### Liability of the Trucking Subsidiary Company.

The trucking company is responsible for all claims something from loss and damage to property or injury and death of employees in the co-ordinated service.(54) In settling the claim on loss and damage to freight, if it is caused by the negligence of one agency, that agency must bear the entire cost of settlement. In case it is caused by the joint act of both agencies, the cost of settlement is to be borne in proportion to the extent to which the act of each party contributed to produce it. The amount allocated to each one may be decided by themselves or by an arbitration board.

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(54) Contract between Oregon Electric Railway and Northwest Transportation Company; I. C. C. 23400, Exhidit 310

The situation is more complicated if the accident occurred to a joint employee who works both for the railroad and the trucking company. Under such condition two methods of settlement between the railroad and the company are provided: if it is possible to ascertain that at the moment when the accident occurred the employee was working for one carrier, then this carrier must bear all the cost of settlement, in case this cannot be determined, then the railroad and its subsidiary shall jointly assume the liability and bear the indemnity in proportion to the wages paid by each party to the total wages. No settlements are made by one without the consent of the other.

Arbitration.

Any dispute which cannot be settled by the officers of the railroad and the transportation company, are submitted to an arbitration committee consisting of two members, one of them to be appointed by the railroad and the other by the transportation company.(55) Before they reach a decision, a hearing on the disputed matter is held so that each party may have an opportunity to present its own arguments. The decision of the committee is final. In case of disagreement between these two arbitrators, a third one shall be selected by the concurrent votes of both of the two arbitrators. The majority opinion will be the decision of the committee. In case any one of the parties fails to elect its own representative within ten days after receiving notice from the other party, the arbitrator first elected shall request a judge of the United States District Court to appoint a second one, and these two so chosen shall elect a third, and the decision of the majority of the committee so organized is final. All expenses incurred are shared proportionally as fixed by the arbitrators.

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(55) 155 I.C.C. 178

# CHAPTER III

## Co-ordinated Terminal Service

The following three chapters point out the successful applications of trucking service in rail terminal operations. The terminal problem has for many years been a hard nut for the railroads to crack. It is a generally accepted view that the "greatest opportunity for co-ordination is in the terminal areas where the railroads' capacities are most limited."(1) By such arrangements both agencies are benefited because each supplements rather than competes with the other.

The co-ordinated terminal services may be divided into the following classifications: (1) off-track and constructive station services; (2) trucking in lieu of lighterage; (3) container service for interline transfer; (4) trucking in lieu of trap car and terminal switching services; and (5) store-door freight service.

In studying the trucking services at different terminals, the best way, perhaps, is to treat each terminal individually. As Professor W.Z. Ripley points out, "the entire terminal is a matter of infinite detail. Each particular situation must be, in a measure, a law unto itself. What will hold good, perhaps for one city will be impracticable for another, because of different physical environment of distribution of traffic; because of a peculiar railway layout; or, most essentially, because of the size and railway importance of the place.(2)

In discussing the different trucking systems, therefore, each of them will be exemplified by an existing practice adopted in one of the leading terminals in this country. For instance, the St. Louis system is the best illustration for the off-track station service, because the trucking service is virtually an extension of the rail lines' operations from the railheads. The New York trucking service is the best illustration of the substitution of trucking for lighterage service in order to reduce the costs and to eliminate a number of expensive waterfront terminals. In Cincinnati, the trucking service has been an effective solution to the problem of interchanging freight among railroads within the terminal area. In Chicago the trucking service relieves railroad terminal switching in an overcrowded territory.

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(1) Report of American Highway Transportation, p. 28, The Chamber of Commerce of the United States, Washington, D.C., 1925.

(2) Ripley, W.Z., "The Problem of Railway Terminal Operation," Harvard Business Review, April, 1924, p. 272.

Before proceeding with the discussion of trucking service a brief review on the existing terminal situation and its defects is desirable.

Importance of Terminal Operation.

The importance of railroad terminals can hardly be overemphasized. The Terminal has been called the "bottle neck" of the railroad system through which traffic must pass to its final destination. Others considered the terminal situation as the heart of the railway question.(3) In discussing the importance of railroad terminals and the necessity for co-ordination with the new agency, the Interstate Commerce Commission has held that:

> "A railroad's capacity is practically limited by the capacity of its terminal. Congested terminal means embargoes, delays, and loss. Terminal operation is probably the most complex and costly in the operation of railroads. In the matter of terminal service the motor truck is now practically indispensable. Through its use the time of transit, unloading, and labor cost are reduced and equipment for line haul service is more quickly released."(4)

In 1924 Professor Daniels of Yale University estimated that "yard tracks and side tracks in the aggregate comprise over 84,500 miles in length, or just one quarter of the entire steel roadway, and that the switching mileage of some roads is as high as 40% of the entire revenue train-mile run."(5) Although the numeral figure varies from time to time, the ratio of the terminal facilities to the line haul trackage and service is approximately the same.

The Inefficiency of Terminal Service.

Despite the great improvement made by the American Railroads in line-haul services, terminal operations have failed to keep pace with the efficiency movement of line-haul, and in certain cases, it offsets most of the advantages derived from the speedy line-haul service. It was pointed out by Professor G. Lloyd Wilson that carload freight remains at a terminal on an average of two days and I. c. I. freight three days. In spite of the fact that the fast freight trains carrying full tonnage frequently attain an average speed between terminals of 35 to 40 miles, and actual maximum speeds of 60 miles per hour, the over-all speed for trains, including terminal delays, amounts to only 20 miles per hour. Moreover, most of the equipment is tied-up in the terminal area just for warehousing goods. As one expert said:(6)

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(3) Professor W.M. Daniels of Yale University.
(4) 140 I.C.C. 175
(5) "Quarterly Journal of Economics," Vol. 38, p. 361, 1924.

> "The diary of the average freight car, if written, would indicate that but about one-tenth of its life is spent over the railroad line, the other nine-tenths are spent in terminals, yards, and shops. Indeed, the word car is misnomer, the thing is essentially a storehouse on wheels."

Under the present system too large a percentage of station facilities is assigned to trap car and switching services from a comparative tonnage standpoint. Most of the cars used in these services are but half loaded, and need to be consolidated at intermediate transfer stations. This not only hinders through traffic, but also causes serious congestion in large terminals.

Heavy Terminal Costs.

Terminal operation is not subject to the law of decreasing cost as is the line-haul movement, particularly when it becomes necessary to increase the number of stations to handle increasing traffic. In other words, the larger the volume of traffic handled, the higher will be the unit cost. The study on the terminal cost of L. C. L. traffic on Western Lines shows that:

| In cities of population | Direct cost per cwt. One terminal |
|---|---|
| over 100,000 | 14.40% |
| 50,000-100.000 | 12.81% |
| 25,000-50,000 | 11.35% |
| 10,000-25,000 | 13.95% |
| over 4,000 | 18.22% |

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(6) Daniels, W.M., "The Future of American Railroads", Quarterly Journal of Economics, Vol. 38, p. 372.

From the foregoing data it can be seen that, except in the rural district where the railroad facilities may be used under capacity, the terminal unit cost tends to increase as the volume of traffic increases. This may be due to any one of the following factors.(7)

1. The necessary multiplication of freight facilities,
2. Keen competition among railroads in large cities, and
3. Decentralization of points of production and consumption (within the terminal area) increasing delivery service.

It is a common practice among large railroads to solicitate traffic through the terminal services offered, especially at important commercial centers where every line tries to control some strategic terminal facilities in order to obtain more traffic. Naturally, this practice has resulted in duplication of expensive terminals and increased terminal expenses. For instance, three railroads serving the City of Philadelphia,—the Pennsylvania Railroad, the Reading Railroad, and the Baltimore and Ohio Railroad, have invested several millions of dollars in competitive terminal freight facilities; 146 freight stations, 50 pier connections with steamship lines, over 1,000 miles of terminal rail trackage, and 1,300 private industrial sidings are operated by the three lines.(8) This is by no means a local incident; similar conditions can be found in every large city throughout the country.

The terminal costs incident to L. C. L. freight are extremely high in proportion to the revenue derived from such traffic, especially, in the short haul. As a result, L. C. L. traffic rarely contributes its share to the net revenues of the railroad. A comprehensive study of the terminal cost made in 1923 on the Western Trunk Lines(9) shows that the average direct terminal costs(10) run as high as 13.67 cents per hundred weight for one terminal, or 27.34 cents for both originating and destination terminals. Therefore, it is necessary to have a first class rate of approximately 39 cents for the first five miles to clear the direct terminal costs at terminals, because the average revenue on L.C.L. traffic in that territory is third class traffic, the rates upon which were from 67 to 70% of the first class rate.

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(7) Scarr, F.M., "Co-ordination of Rail and Highway Freight Transportation Within the Terminal Area," Journal of the Western Society of Engineers, April, 1926, p. 131.

(8) Wilson, G. Lloyd, "Co-ordinated Motor-Rail-Steamship Transportation," p. 14.

Moreover, due to the constant increase of labor cost, the direct terminal cost tends to increase from time to time. The following data obtained from several studies on the terminal cost at different places tend to indicate this tendency.(11)

| Year | Territory | No. of stations | Average direct cost per 100 lbs. for one terminal |
|---|---|---|---|
| 1916 | C.F.A. | 8 | 5.49 cents |
| 1917 | Michigan | 38 | 7.30 cents |
| 1917 | Illinois | 68 | 8.67 cents |
| 1918 | Eastern Trunk Lines | 83 | 10.40 cents |
| 1921 | Southern | 5 | 11.54 cents |
| 1923 | Western Trunk Lines | 100 | 13.67 cents |

There are at least three reasons to which the high terminal cost in handling L.C.L. freight may be attributed.(12) In the first place, carload freight is loaded into and unloaded from freight cars by the shipper, while L.C.L. freight is loaded and unloaded by the railroad employees. Secondly, carload freight does not pass through a freight station, but is loaded and unloaded at the shipper's expense on public team tracks or private sidings. L.C.L. freight is loaded and unloaded over a station platform at the expense of the carrier. Finally, l.c.l. cars are seldom loaded to anything like their tonnage capacity.

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(9) Maxwell, Wm. C., address before the Freight Station Section of American Railway Association at Detroit, July 16, 1926.

(10) Direct costs comprise the expenses under three main headings: the platform costs, the clerical costs, and the switching and other costs. It does not include any costs of investment in property, maintenance, taxes or over-head expenses.

(11) Maxwell, Wm. C., Address before the Freight Station Section of American Railway Association at Detroit, July 16, 1926, Pamphlet.

(12) "Relation of Highways and Motor Transport to Other Transportation Agencies," Chamber of Commerce of the U.S., Nov. 2, 1923, p. 10.

In its authoritative report, the Special Committee of the Chamber of Commerce of the United States, described the terminal situation in the United States as follows:

> "The congestion of transportation today centers around the terminals of our great cities, and it is at these terminals that the railroads find the greatest difficulty in keeping pace with the public need. With hardly an exception the main tracks of our railroads have sufficient capacity for the movement of more freight than can be offered to them. Still in spite of this fact the railroads are constantly faced with a demand for more and better terminal facilities in the face of prohibitive real-estate value and other stupendous obstacles to expansion." (13)

The railroad terminal problem has become more acute due to the economic and commercial changes in recent years. The general trend during recent decades has centered population and industry in the large cities. It is shown by the census that during the twenty-five years from 1900 to 1925 there has been an increase of about 50 per cent in the population of the United States as a whole and an increase of 81 per cent in the population of the 18 largest cities.(14) This concentration of population and industry has had double effect upon railroad terminal operation. On the one hand, increasing population necessarily means increased traffic. As a result the railroad terminal facilities which were constructed years ago are no longer adequate to meet the changing conditions. On the other hand, the demand for land for other commercial and industrial uses is increasingly urgent. Since the railroad terminals are, in most cases, located in the crowded sections of cities, it is almost impossible, both physically and financially, to extend or enlarge these terminal facilities to accomodate the increase in traffic. The expansion of terminal facilities in large centers in the next twenty years will probably be required to a degree that seems almost impossible with the present method of terminal distribution, and that the introduction of a secondary system to supplement the railroad for distribution from terminal to the final consumers is necessary. (15)

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(13) "Relation of Highways and Motor Transport to Other Transportation Agencies," p. 9, Chamber of Commerce of the United States, Washington, D.C., 1925.

(14) Wilson, G. Lloyd, Cp. cit., Chap. II, p. 15.

The changing conception of the shipper in regard to the requirement of transportation is another important factor which necessitates the co-ordination of rail and truck service within the terminal area. Under former conditions shippers were content to deliver or receive shipments at rail terminals, but this situation has changed since the development of motor transportation, which offers door-to-door service. It is common error to assume that transportation is finished when the terminal is reached. Logically speaking, it "marks rather a change in the character of the conveyance than a cessation of movement."(16) From the shippers' point of view, the terminating points are their warehouses or places of business. They must make arrangements with local cartage companies to consummate the transportation services after their shipments have reached the railroad terminal.

## The Increasing Importance of Terminal Operations.

The tendency towards the specialization of terminal design contributes another factor.(17) In recent years, many special yards and terminals have been constructed for lumber and coal, elevators and yards for grain, tidewater pier terminals for export and import traffic, and produce terminals for perishable commodities. In carrying out these projects large sums of money are invested by the carriers, and, consequently, overhead charges are heavy items in the cost of railroad terminal services.

Lastly, the rapid increase of high class traffic is another factor in increased terminal costs. Figures by L. E. Wettling, the Director of the Statistics Bureau of Western

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(15) Hyde, Dorsey W., "Linking Railroad and Water Transportation," American Academy of Political & Social Science Annals, Vol. 116, November 1924, p. 25.

(16) Daggett, S.R., "Principles of Inland Transportation," Chap. XXII, p. 412.

(17) Sudburough, C.B., Assistant Vice-President of P.R.R., Address at the opening of the 2nd National Airport Conference, N.Y., May 14, 1930.

Lines, show that for the five-year period from 1911 to 1915, inclusive, the average per cent of the total tonnage handled, made up of manufactured and miscellaneous freight, was 13.17 per cent of the total freight handled by railroad, while in the five-year period of 1926-1930 the average percentage increased to 24.18 per cent of the total traffic.(18) The higher handling costs to the railroad are due to the fact that high class traffic requires special handling and special treatment.

## Off-track Station Service.

An off-track freight station is a station or a warehouse suitable for receiving and protecting freight delivered by shippers or railroads for transportation or awaiting delivery. As the name indicates, the station is not connected with railroad tracks. To link the off-track stations with the railheads, the railroads employ trucking companies to act as agents to haul freight by means of motor vehicles to or from the rail freight stations. From the shipper's point of view there is no difference between the on-track and off-track stations, since the trucking service is simply a substitution for the rail service. No extra charges are imposed on shippers or consignee, and at off-track stations the trucking companies, as agents of the railroads, perform many station services, such as weighing, checking, issuing receipts for shipments tendered by shippers, collecting freight charges as published the tariffs, and other related functions;-all of which are performed the same way as in the railroad freight stations.

Due to the different natures of the services, off-track stations are often used in the handling of traffic in one direction only, that is, for outbound or for inbound traffic only. By this division the services can be performed more efficiently, and street congestion reduced to a considerable extent. The primary importance of the outbound service is to move the goods from the platforms as soon as possible, while inbound traffic may involve the problems of storage.

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(18) Shannon, H. H., "The Railroad Terminal," Traffic World, August 22, 1931, p. 429.

In operating off-track stations for outbound traffic, proper space must be provided for the receiving platforms, and attention must be given to the following factors:(19)

1. Sufficient parking space to permit the shippers' vehicles to make deliveries,
2. Adequate and efficient clerical forces to handle billing and other related work,
3. A sufficient number of drivers to haul freight from the station to the railhead station and
4. Adequate equipment to receive the freight.

In most cases, the off-track stations are multi-storied buildings with modern warehousing facilities. The lower floors are used as receiving and delivering platforms, while the upper stories are used for storage. As in regular railroad stations, inbound freight, handled through off-track stations is allowed a period of 48 hours" free time, and notices of arrival are sent the consignees, unless special arrangements have been made by the latter with the trucking company.

The freight is carried upward or downward by means of elevators, even a fully loaded truck can sometimes be moved without unloading at the lower floor. The platform operation is often changed from horizontal to vertical. Both the space and height of the buildings are used to increase operating capacity. In case the consignees wish their shipments stored in the stations, the trucks are elevated to an upper floor; or the consignees can store a part of their shipments and collect the other part for immediate use. Under this method the shippers usually can obtain lower storage charges, and save at least one trucking charge from rail stations to warehouses.

Constructive Station.

The constructive station system, sometimes called the modified form of store-door delivery service, goes one step further than the off-track station system. It provides trucking service not only between the railhead and the constructive points, but also between the constructive points and shippers' or consignees' store doors.

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(19) I. C. C. Docket 19594, Record 489, E. F. Saur, testifying for the Pennsylvania Railroad.

Because of a shortage of terminal facilities the railroads, by their tariffs, designate certain trucking concerns as their transfer agents to receive or deliver freight, and designate certain points as the constructive stations. These stations are points which mark the extent of the railroads' and truckmens' liability. The particular point of this system is that there is no actual delivery of the freight at the constructive stations, nor is there any physical buildings where the trucks make stops. The terminal vehicles pass through or by the constructive stations on their way between the railheads and the places of business of shippers or consignees. The Interstate Commerce Commission has defined a constructive station as merely an imaginary line that divides the responsibility and expenses between the rail carrier and the traders.(20)

From the railheads up to the constructive points the rail carriers pay the trucking charges and assume the responsibility for loss and damage to shipments. Beyond that point the trucking charges are borne by the shippers and the risks are assumed by their trucking agents. There is no actual station work at the constructive station. The clerical work and collection of freight are usually performed by the trucking companies.

It is interesting to note that under this system the trucking company has dual responsibility. On the one hand, it represents the shipper or consignee in making arrangements with the railroad in the matter of payment, billing, and routing. On the other hand, it acts as the agent of the rail carrier in performing the delivery service, assuming the obligation for loss and damage to freight when the shipment is in its custody, and collecting the freight charges due the railroad from either shipper or consignee.

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(20) 155 I. C. C. 151

## The St. Louis Practice.

For the study of the off-track and constructive station systems, perhaps, no better example could be offered than the St. Louis practice, not only because it has a successful history running back nearly three decades, but also because it presents a more complicated terminal operation than any other in the United States. Geographically, St. Louis and East St. Louis are separated by the Mississippi River, which for many years prevented the establishment of physical connection of rail lines between these cities. To overcome such natural handicaps, several means have been tried from time to time but the situation has not greatly improved. In the early days railroads established their freight stations as near to the ferry landing as possible so that freight could be moved across the River in ferries. In 1870 the first car transfer was towed by the tow-boat "Gartside," and in the next year the first steam boat was put in commission in trans-Mississippi movement. Still later the gap was filled by the construction of many bridges, including the Ends Bridge and the Municipal Bridge. All of these improvements facilitated the freight movement to a certain extent, but by no means solved the whole problem.(21)

Although the railroad layouts are somewhat similar to those at New York and Chicago, the situation at St. Louis is more involved by reason of the fact that full railroad service is rendered on both sides of the waterway, together with a heavy interchange across the river; whereas the traffic condition in Chicago and New York are confined to one side only,-the former on one shore of Lake Michigan, and the latter on the west side of the Hudson River. In comparison, the railroad service at Chicago resembles to some extent the situation of East St. Louis and the service at New York resembles St. Louis, but St. Louis on the west bank is served by a number of trunk line railroads and by terminal switching lines which are really the terminals of the Eastern Lines.(22)

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(21) Proceedings of St. Louis Railways Club, Vol. 34, May 1929.

(22) American Society of Civil Engineers, July 11-13, 1923.

## Origin of Constructive Stations in the St. Louis Terminal Area.

The constructive station system or direct delivery of freight from the east-side railroads to St. Louis may be traced back as far as 1870. At that time the Louisville and Nashville Railroad inaugurated this service to meet the competition of the St. Louis, Iron Mountain and Southern Railroad. Under this arrangement the railroad fixed the constructive point at the first contact with the west shore and appointed certain draymen, listed in its tariff, as transfer agents to deliver and receive freight to or from St. Louis. For shipments so handled the railroad agreed to absorb a part of cartage up to the so-called constructive point.

The most delicate point to be considered in this system was the amount of cartage absorbed by the rail carrier. Inasmuch as the constructive station as merely a substitute for team track delivery, the rail carrier should have borne no more expense than was necessary to fulfill its obligation. "An allowance so high that it affords an opportunity for competing draymen to shade their charges to consignees, entirely aside from question of legality, would have to be met by the west-side lines through the establishment of similar allowances or through store door delivery. Too low an allowance would not put the east-side lines on a competitive basis with the west-side lines in cases where shippers have an option as to the service."(23) Therefore, the east-side carriers accepted the guiding principle that the absorption of cartage should not exceed an amount that would enable shippers or consignees to deliver or collect freight in the eastern terminal at the same cost to them as they deliver or collect freight at the terminal in St. Louis proper.

This arrangement benefited the carrier as well as the shipper. Since the truck proceeded directly from the railhead to the consignees' store-doors without handling at the constructive station, it expedited the movement and saved at least one handling expense.

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(23) 155 I. C. C. 155

## Origin of the Off-Track Station System in St. Louis

Prior to the year 1906 when the east-side lines established through rates to and from St. Louis no east-side lines had maintained freight stations in that city. Freight to or from East St. Louis was handled either through the terminal railroads or by drayage companies. In 1905 the St. Louis Chamber of Commerce started a "put the St. Louis on the map" campaign, urging that the east-side railroads establish through rates and issue through bills of lading to and from St. Louis. So forceful was the campaign which was supported by every line of business in that city that the trunk lines whose terminals were at East St. Louis agreed to establish through rates, effective January 1, 1906, between St. Louis and Central Freight Association Territory by adding certain river transfer charges. This arrangement did not satisfy the commercial interests of St. Louis and another campaign for equal rates and through service to and from St. Louis propry was staged. Finally, in 1910 the trunk lines consented to make the rates the same for both sides of the Mississippi River by increasing the East St. Louis basis from 116% to 117% of the Chicago-New York rate, and to apply this level of rates between both St. Louis and East St. Louis, on the one hand; and Eastern Trunk Line and New England Territory, on the other.

As soon as the east-side carriers began to issue through bills of lading and through rates, they placed themselves under obligation to receive and deliver freight in the city of St. Louis. In performing such functions they employed a number of local drayage companies as their agent, and used as their St. Louis depots the off-track stations maintained by the transfer companies.

## Functions of the Trucking Agents.

The trucking companies acting as agents of railroads perform certain station and clerical work in handling freight at the off-track stations similar to those at the on-track railroad stations. As has been said, off-track stations are often assigned to traffic in one direction. i.e., either outbound or inbound traffic. In order to expedite movements, the functions are different in handling these two kinds of traffic. The inbound traffic requires more time and work than the outbound. In general, the functions of the inbound off-track station may be enumerated as follows:

1. When freight reaches the railhead, inbound shipments are classified according to their destinations, then shipments to the same zone or territory are hauled to the station which is located in or near to the zone.
2. When reaching off-track station, shipments are unloaded and stored on the upper floor ready for collection. In case the consignee has special arrangements with the trucking company, shipments are delivered to the consignee's store.
3. After the freight has been stored, proper station records are made registering the transaction. The truckman assumes the responsibility of warehouseman when shipment is in his custody.
4. Notice of arrival is sent to the consignee and the time record for calculation of demurrage charges is kept. In case the consignee is a large shipper, notice by telephone is given in addition to the postal notice, Sometimes a second or final notice is necessary when the shipment is not called for by the consignee.
5. Collecting freight rates and other charges from the consignee for the railroad, except when the freight is prepaid, keeping proper account for each transaction and remitting the money to the railroad treasury department within a definite period of time, as agreed in the contract. In case any dispute arises as to the freight charge, the truckman keeps the account open until settled.
6. Settling claims for loss and damage on freight, if it is due to the truck handling, the truckman should pay the indemnity. When shipments are misrouted or go astray, the trucking company should use every effort to trace and correct the errors.
7. Preparing statement against the railroad for the trucking charges.

The following functions are performed by the outbound off-track station:

1. Performing certain station work, such as checking, weighing and similar routine tasks.
2. Issuing bill of lading to the shipper as a receipt when the shipment is received.
3. Collecting freight charges from the shipper in case it is prepaid and remitting the money to the railroad.
4. Delivering the shipments to the railhead according to the instruction of the shipper.
5. Keeping proper record on the shipment delivered to the railroad.
6. Notifying the shipper in case of erroneous routing.
7. Preparing statement against the railroad for trucking charges.

Two outstanding features of the St. Louis system which are responsible for its successful operation are the one-transfer and the uniform rate method. By one transfer is meant that all the railroads appoint one trucking company as their sole agent and the uniform rate means the same charge for the same type of service. These two are so vitally important that their presence or absence may result in the success or failure of the trucking service.

One-Transfer Plan.

Before the adoption of the one transfer plan in St. Louis trucking service was used by railroads, not as a supplement to the rail terminal operation, but as a weapon to attract traffic. The competitive force was so keen that almost every line serving the district maintained trucking service in one form or another. A witness for a trunk-line railroad testified before the Interstate Commerce Commission that in studying the record of his company the establishment of off-track stations by the railroad was not due to the lack of station facilities but due to the keen competition among railroads themselves.(24) Some lines even discarded their on-track stations on the St. Louis side and used off-track stations instead, on the ground that the latter service was faster and cheaper.(25) Still others maintained both on-track and off-track stations on both banks of the Mississippi River, some of the trucking stations being located near to the rail depots.(26) Since each of the railroads tried to maintain as many off-track stations as possible, there were more truck stations than were necessary, especially in the constructive station system. As a rule railroads had no control over trucking companies. In a certain case, the truckman used the first floor of a building as an off-track station and rented out the upper floors to other business concern; in another case, some large shippers operating a trucking company near their warehouse, requested the railroad to maintain an off-track station there. All these arrangements offer practically free delivery service at the expense of the railroads.

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(24) I. C. C. Docket 19, 594. Record 781, B. E. Thomas testified for the St. Louis and San Francisco Railway.

(25) Ibid., record 193, P. R. R.

(26) Ibid., p. 31.

The trucking service was far from satisfactory and many attempts were made by the rail carrier to improve that service. In 1925, a committee representing all railroads in St. Louis was formed and authorized to designate the number of off-track stations in St. Louis and to improve the existing condition. The report of this Committee clearly indicates the transfer situation at that time, as follows:(27)

> ....that not more than 32% of the freight delivered to the transfer company's stations was forwarded from St. Louis the same night as received. This most vital defect results in serious damage to the commerce of St. Louis. This is due to the fact that the freight for every railroad in St. Louis and East St. Louis is dumped into 8 outbound off-track stations of three transfer companies, and it is so split up that there is not sufficient concentration to permit straight truck loads or frequent truck service to the numerous railroad stations in East St. Louis in time for forwarding the same evening. ....the freight for railroad stations in St. Louis is delayed through useless, expensive, and unnecessary service of stopping en route in consignor's warehouse to the main on-track railroad station, except on traffic for west-side roads that have no on-track stations on the southside.

The committee recommended that all railroads maintaining the trucking service in the St. Louis district should select one transfer company as their sole agent in order to avoid those defects and gain the economy of freight concentration.

### The Legality of One-Transfer Plan.

There is of course, much opposition from the shippers, the carriers, and the trucking companies to the one-transfer plan on the following grounds: first, that this practice violates the spirit of the Anti-Trust Laws by employing one truckman as the transfer agent; second, that the rail carriers could not employ one truckman and refuse others without practicing undue and unjust discrimination; and third, that even if it were legal, the elimination of competition among truck companies would inevitably result in higher truck rates, thus the shipping public would suffer the evil results of the monopoly.

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(27) I. C. C. Docket 19594, Exhibit 8.

In refuting all of these contentions, the Interstate Commerce Commission held: first, the carriers may unquestionably provide a jointly owned facility for the purpose of securing performance of terminal service now being performed through the transfer company. Whatever facilities the carrier may now own and operate, they can contract for without violating the Anti-Trust Law.

Second, the rail carriers should have the right not only to select trucking companies as their own agents, but also to limit the selection to one company. Since the trucking is a part of the service which the rail carriers are bound to perform, they are responsible for the freight while it is being moved by the trucking companies between the west river bank and on-track stations. It is necessary that they should control the service to the extent of seeing that only responsible persons are engaged in it, and while acting for the railroad, they fully discharge the duties of the carrier as common carrier. Full protection of the carrier can not be obtained unless the trucking service is limited to those persons who can give the carrier satisfactory service and responsibilty.(28)

As to the number of transfer companies, the Commission quoted the following decision of the United States Supreme Court:

> "On important lines one company will at times fill all the space the railroad company can well allow for the business. If the space had to be divided among several companies, there might be occasions when the public will be put to inconvenience by the delay which could otherwise be avoided."(29)

The Commission added:

> "So long as the public are served to their reasonable satisfaction it is a matter of no importance who served them......If this is done the railroad owes no duty to the public as to the particular agencies it shall select for that purpose."(30)

Lastly, the Commission was convinced by the testimony presented at the hearings, showing that the duplication of trucking service resulted in delay and wastefulness. In order to improve this situation the one transfer plan is justifiable and cannot be regarded as a monopoly in the odious sense of the word.

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(28) 155 I.C.C. 140

(29) Express Case 117, U.S. 1.

(30) 155 I.C.C. 139.

After the Commission had approved the one transfer plan, the rail carriers in St. Louis selected the Columbia Terminals Company as their sole trucking agent.(31) Accordingly, the number of off-track stations has been reduced to nine in the following locations.(32)

4 outbound freight stations on the St. Louis side of the River:

the 11th and Spruce Sts. Station,
the Broadway and Spruce Sts. Station,
the Broadway and Chouteau Station, and
the Second and Carr Sts. Station;

3 inbound L.C.L. freight stations on the St. Louis side:

the 6th and Spruce Sts. Station,
the Broadway and Carr Sts. Station, and
the 4th and Valentine Sts. Station, and

2 outbound L.C.L. freight stations on the East St. Louis side;

the 700 Broadway Station, and
the Stock Yard Station.

The use of off-track stations is limited to L.C.L. traffic only. Carload shipments to the west side are moved by the Terminal Railway in St. Louis. Some of the railroads on the St. Louis side, which have on-track stations, have discontinued the use of off-track stations in handling L.C.L. freight.

The Advantage of One-Transfer Plan.

The one-transfer plan has certain definite advantages to the rail carriers. In the first place, through the one-transfer agent the number of off-track stations is reduced and the duplication of facilities is avoided. The concentration of freight into fewer stations makes possible the establishment of running schedules, thus providing for the regular and frequent dispatching of tractors and trailers between off-track station and on-track stations; thereby, securing more expeditious movement and heavier loading than otherwise can be obtained. The direct loading of goods from off-track to railhead is assured to shippers without using the mixed load method and the roundabout routings which were necessary under the previous system. Secondly, economies result from large scale trucking operations. It is a well known fact that the overhead and a part of the operating expenses of trucking services do not vary with the tonnage of freight handled.

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(31) Formerly, the trucking services were performed by three separate concerns, namely, the Columbia Terminal Company, The Fidlity Transfer Company, and the Central Transfer Company.

(32) Letter from Mr. L. W. Chidress, President of the Columbia Terminals Company.

On the contrary, the more traffic handled the less are the unit costs, and less platform space is required if the volume of traffic is sufficient to be moved from car to trucks. Furthermore, many unnecessary expenses can be wholly or partially eliminated. For instance, under the competitive method about $50,000 was spent annually by trucking companies for the solicitation of traffic. This relatively large sum was paid by the railroads in the form of higher trucking rates. Under the present system this item is entirely eliminated.

The rail carriers save a great deal of clerical and accounting work by dealing with one trucking agent through the committee management rather than dealing with numerous truckmen individually. Another advantage of the one-transfer plan is the relief of street congestion made possible by the reduction of the number of vehicles. Under the former system each transfer company handled its own traffic, since the volume of traffic was divided into so many shares that their trucks were only partially loaded. As a result the terminal area was jammed with trucks. Under the one-transfer plan fewer trucks handle those shipments by consolidating them according to their destination. Thus streets are made available to other traffic even during the rush hours.

Lastly, this system is necessary to meet the traffic condition, since the traffic movements are not balanced in both directions. The ratio of outbound l.c.l. traffic from St. Louis to the inbound is 8: 1. If the trucking service is performed by several agents, the inevitable result is a large empty vehicle movement between the rail stations and the off-track stations. This wasteful operation of equipment naturally results in higher rates on traffic. Under the present system the trucking company can use a portion of its vehicles for the interchange of freight for different railroad lines on the east-side. The empty vehicle movement is greatly reduced.

Uniform Trucking Rates.

Another meritorious point in the St. Louis terminal trucking system is the adoption of uniform trucking rates for various kinds of services. Formerly, each railroad tried to influence traffic by paying higher trucking rates to its contractor. This resulted in heavy inroads upon railroad revenues. One railroad witness stated in testimony before the Interstate Commerce Commission that: "We know this is waste of money, but we have to make such an allowance for we cannot afford to lose the traffic."(33)

In view of the chaotic situation resulting from keen competitions the rail carriers realized that it was necessary to adopt a uniform rate for all trucking services in the terminal. This task was by no means easy; it could not be based on guess-work, but had to be the result of scientific research. In attempting to reach a basis to determine the fair allowance for a trucking concern, a cost study committee, consisting of the representatives of all railroads serving St. Louis and an advisor representing the Interstate Commerce Commission, was organized to investigate the situation. Besides, six leading trucking companies at St. Louis voluntarily submitted their records for cost analysis.

The formula used in determining the trucking rates accepted by the committee as the proper basis of rates was operating costs plus a fair return on the investment of the trucking company. Generally speaking, the operating costs consist of the following items:

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(33) I.C.C. Docket 19594, Argument p. 36.

1. Loading and unloading costs,
2. Transfer or movement costs,
3. Station handling costs,
4. Clerical costs,
5. Loss and damage freight claim costs.,
6. Bridge toll and ferry costs, and
7. Taxes and insurance costs.

In calculating the operating costs per unit for different services the vehicle hour-costs are applied to the time consumed by each class of service to ascertain the total cost for that operation and the result is divided by the tonnage to produce the cost per ton.(34) In valuating the investment of the trucking company the reproduction costs less depreciation method was adopted as a basis. The life of the tractors and trucks is calculated at 8 years each, trailers at 15 years, and buildings at 33 ⅓ years.

Based on the records of the six local trucking companies, the cost study committee suggested that a 10% return on the investment of the trucking company would be fair to both parties. This suggestion was approved by the Commission.

The following table shows the average composite costs of various trucking services, and a contrast between the former and present rates.(35)

| Off-track station services | | Costs per ton | Former rate per ton | Present rate per ton | Reduction |
|---|---|---|---|---|---|
| St. Louis outbound to west | | $1.63 | $2.00 | $1.95 | 5% per ton |
| St. Louis outbound to east | | $1.68 | $2.41 | $2.04 | 37% per ton |
| St. Louis inbound from east | | $2.28 | $2.70 | $2.60 | 10% per ton |
| Interchange services: | | | | | |
| East to East | | $1.30 | $1.64 | $1.54 | 12% per ton |
| West to West | | $1.40 | $1.71 | $1.61 | 10% per ton |
| Trans-Mississippi | | $1.41 | $1 91 | $1.62 | 29% per ton |
| Direct delivery | L.C.L. | 2.79% per cwt. | | 3% per cwt. | |
| | C.L. | 1.61% per cwt. | | 2% per cwt. | |

These trucking rates are subject to change at intervals of every six months by the agreement of both parties. The railroad shall receive the benefit of any revision which will reduce the cost to the railroad and the trucking company shall receive the benefit of any revision which may be necessary to insure a reasonable profit to it.(36)

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(34). 177 I.C C. 318
(35) 177 I.C.C. 318

It is estimated that in a normal year 830,516 tons of freight will be handled by the trucking service. The annual saving for the rail carriers will be $181, 398.00 per annum. The saving from the discontinuance of off-track stations by some west-side lines would amount to $125,000.00 per annum.(37)

## Operating Methods

Since the terminal company is the sole agent of the railroads, when outbound traffic is delivered to any off-track station, the freight agent of the terminal company issues a bill of lading to the shipper as a receipt, which, being recognized by all railroads as the proper shipping document, has the same effect as the railroad bill of lading. After careful sorting and classification freight is transferred to the designated railroad line. In case the volume of freight to one railroad is sufficient for a trailer-load, straight destination loading is used rather than mixing this traffic with the traffic of other lines.

A special document. known as the outbound freight manifest, is issued either in duplicate or triplicate form by the trucking company's agent to record all shipments delivered to certain railroads. This paper serves as the off-track station record, the receipt of the railroad, and the basis for settlement of accounts with railoads. It cantains the description of the articles, the name of the railroad to which the shipments are to be delivered, the names of shipper and consignee, the destination of the shipment, the name of freight loader, and the name of the freight agent who prepares the manifest.- The form of this manifest is similar to that shown in the Figure

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(36) 155 I.C.C. 177

(37) 177 I.C.C. 318

FORM 19

# COLUMBIA TERMINALS COMPANY

Manifest of Freight from...............Depot to.................R. R. Date ............No.........

Vehicle No................Loaded by.............Madifested by.........................................

| PRO-NUMBER | SHIPPER'S REFERENCE | SHIPPER | CONSIGNEE | DESTINATION | WEIGHT | EXCEPTIONS |
|---|---|---|---|---|---|---|
| 1 | | | | | | |
| 2 | | | | | | |
| 3 | | | | | | |
| 4 | | | | | | |
| 5 | | | | | | |
| 6 | | | MANIFEST | | | |
| 7 | | | FOR | | | |
| 8 | | | OUTBOUND | | | |
| 9 | | | | | | |
| 10 | | | | | | |
| 11 | | | | | | |
| 12 | | | | | | |
| 13 | | | | | | |
| 14 | | | | | | |
| 15 | | | | | | |
| 16 | | | | | | |
| 17 | | | | | | |
| 18 | | | | | | |
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| 20 | | | | | | |
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| 28 | | | | | | |
| 29 | | | | | | |
| 30 | | | | | | |
| 31 | | | | | | |
| 32 | | | | | | |
| | | | | | | |

| | |
|---|---|
| EXCEPTIONS | |
| WEIGHT | |
| DESTINATION | |
| CONSIGNEE | |
| SHIPPER | |
| SHIPPER'S No. | |
| PRO. No. | |

When this manifest is signed by the Railroad, it constitutes a clear receipt for all shipments listed hereon. If no exception is placed on this manifest by the receiving railroad, when signing it, this company shall not be liable for any alteration of ticket as originally issued by shipper.

| PRO. | ROUTE | CONSIGNEE | WEIGHT | OFF AT | WHY TAKEN OFF | BY WHOM |
|---|---|---|---|---|---|---|
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |

FORM 65

## REGISTER BOOK FOR INBOUND TRAFFIC

| Date E. B. | R. R. Pro. No. | Consignee | Register | Charges Advanced | | Our Charge | | Total To Collect | | Date Paid | Amount Paid | | Under Paid | | Over Paid | | Uncollected | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | | | | | |

The manifest and the shipping orders are handed to the truck driver who makes the delivery to the destinated station. When the railroad agent receives shipments he retains shipping orders and one or two copies of the manifest as the station records, and returns the signed copy to the driver as a receipt. In case of any changes of routing or shortage of shipment, the agent should insert his remark in the "exception" column, otherwise the company will not be liable for the alternation of the ticket as originally issued by shipper, or for any loss. The accounting department of the terminal company prepares monthly statements based upon the manifests showing the total tonnage of traffic delivered and the amount of trucking charge the railroad owes the company. In case the freight is prepaid by shippers the amount should be remitted to the railroad within a definite period.

A similar method is applied to the handling of inbound freight shipments. The railroad freight agent prepares a statement enumerating all shipments to be turned over to the terminal company and the amount of freight charges to be collected from the consignees. The terminal company is responsible for collection and prompt remittance of charges to the railroad. Each shipment will be assigned a number and duly recorded in the "register book". After the freight charges are collected a receipt is sent to the accounting department to clear the accounts on the register book. The following form shows the manifest of inbound freight.

## Equipment

Before the advent of motor vehicles the trans-Mississippi River freight was hauled across the bridges by horse-drawn wagons. The introduction of motor trucks to the transport system did not replace the horse drawn wagons immediately, for the operating costs of the truck were very high owing to the frequent stops for loading and unloading freight. In 1919 several experiments were made with tractors and trailers. The tractors were detached while the trailers being loaded and unloaded. The result was so successful that the trucking companies were led to substitute trailers and tractors for wagons. The movement of traffic has been expedited to a great extent, for only one-third of the amount of time is required by the modern method as compared with the horse drawn movement.

Open trailers with side-stacks and ridge poles are used in the St. Louis terminal services. It is claimed that by using ths special equipment not only extra dead weight and extreme heat are eliminated, but a more flexible movement can be attained. The trailers can be handled from any point on the platform or freight house of shippers without resorting to the aid of crane facilities. Although the shipment is not under lock and key, the careful handling by the driver makes the chance for pilferage very small.

The trailers run on a rear axle and two heavy truck wheels. The front end when detached from the tractor is supported on a hinged frame with two small wheels under the body, which permits the trailer to be moved around even when detached. The front end of the trailer is picked up automatically and carried over the rear driving wheels of the tractor which has four wheels.

In 1932, the company owned 104 motor tractors of 7 tons capacity and 441 semi-trailers of capacities ranging from 6 to 12 tons. Some of the semi-trailers are special 30 feet trailers for handling shipments of excessive length.(38)

A definite quota of trailers is allocated to each station according to its volume of traffic; as loaded ones are moving out, a replacement is made immediately so that the quota is always kept up. At the station the trailers are arranged in order. Each one is placed so as to leave a space which allows the parking of one trailer. When the tractor detaches the empty trailer in the empty space, it immediately pulls out the loaded one. This arrangement results in an average saving of time of about seven minutes for each operation, i.e, detaching the empty and hauling the loaded one.

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(38) Letter from J. F. Murphy, Vice-President, Columbia Terminals Company, Dated February 16, 1932.

## Dispatching System.

A tractor dispatching system has been devised by the Columbia Terminals Company, similar to the railroad car dispatching system, in order to cut down the idle time to minimum, and to increase the service hour of equipment and personnel to a maximum. The costs of truck operation do not vary in direct proportion to the distance traveled or tonnage handled; therefore, the longer the service hour of equipment and personnel, the less will be the costs per unit.

For the convenience of operation the terminal area is divided into three districts, namely: (1) the East St. Louis District embracing all freight stations of the thirteen east-side railroad lines; (2) the North End District consisting of one inbound and one outbound off-track station and ten railroad on-track stations; and (3) the South End District comprising three outbound and two inbound off-track stations, a storage warehouse and three railroad on-track stations on the St. Louis side.

The dispatching staff consists of three superintendents; one having headquarters in each of the above mentioned districts. The chief dispatcher has his office in the South End district.

The whole dispatching work is controlled by private telephones which link up all freight stations and the central office. At the beginning of a working day the chief dispatcher is informed by all district superintendents as to the number of trailers and tractors available in each district, and an estimate of the amount of freight to be handled in the working day. The superintendent, in turn, is informed every hour by the transfermen at every station as to the number of freight cars on hand to be unloaded and the available equipment at each station. Based upon these reports arrangements may be made by the district superintendent for transferring the surplus trailers at one station to another which may need additional equipment to handle the extra traffic. At the closing hour the foreman of each outbound freight station telephones to all principal shippers, asking them the probable tonnage of freight to be delivered on the next day so that the company can make preparations beforehand to meet the traffic demand on the following day.

The chief dispatcher's office has systematic card file method used to control the movement of tractors. Each tractor is assigned a number. Each card represents a tractor, a white card is used to record the tractors garaged in the west-side and the blue cards are used for the tractors garaged in the east-side. Each movement and the time it occurs are reported to the local district and relayed to the central office where the proper entries are made on the cards. This method enables the chief dispatcher to know the exact number and location of tractors in each district by merely counting the cards.

When a driver makes deliver to one station and unloads the lading, he immediately reports to the superintendent of the local district the number of the tractor and the station from which he is reporting. From this information the superintendent assigns the driver to the nearest station for duty and relays the reports to the central office for filing. Under normal traffic conditions the movement of empty tractors across the river is carefully avoided; that is to say, tractors from east to west are not returned to the originating stations unless they are loaded on the return trip. However, this rule does not apply to emergency cases.

Two special methods are employed in handling traffic in rush hours. One is known as the "over-light" method, and the other "quick-turnover" method. The term "overlight" means that the driver, having delivered a load at the destinated station, is instructed to return to the originating station with an empty trailer. When the east terminal is so congested by the heavy incoming traffic that the available equipment is not sufficient to handle it, the chief dispatcher will be requested to provide additional equipment within a definite time to meet the situation. Upon this the chief dispatcher instructs drivers on the west-side to take the empty trailers back to the east-side as soon as they unload the lading. The operation takes only a few minutes so that the congestion can soon be relieved.

Form 60

CHestnut 7280
NIGHT NUMBERS: CHestnut 5356 BRidge 2460
NIGHT NUMBER SHOP CHestnut 3107

# COLUMBIA TERMINALS COMPANY

TRACTOR NO...... ...............SIZE..................................

TRACTOR DRIVER.......................................................................GAS..........................Gals. METER OUT.................................. DATE...........................................19 ..................

HELPER.................................................................................OIL..............................Qts. METER IN.........................................

| TRAILER | Lots Charged | M'f'sts Charged | From | Time in | To | Time Out | Manifests Checked In | BY WHOM | IN - BOUND | | REMARKS | WEIGHT | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | Time of Arrival | Time Light | | | | |
| | | | | | | | | | | | | | | |
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| | | | | | | | | | | | | | | |

All delays must be explained on back of this sheet.

Checked by.........................................................................................

Time In......................

**Chauffeurs must secure credit for both tickets and freight left at depots and with foremen**

## OVERS

| TRAILER | FROM | DESCRIPTION | CONSIGNEE | DESTINATION | WHERE TAKEN OFF | By Whom Taken Off |
|---|---|---|---|---|---|---|
| | | | | | | |
| | | | | | | |
| | | | | | | |

## Causes of Delays must be explained below.

| WHERE DELAYED | FROM | TO | Total Time Delayed | REASONS FOR DELAY |
|---|---|---|---|---|
| | | | | |
| | M. | M. | | |
| | | | | |
| | | | | |

## Condition of Equipment

| TRAILER | FROM | STAKES | SIDE RAILS | RIDGE IRONS | BACK RAIL | RIDGE POLE | RELEASED BY |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

The "quick-turnover" method means that after detaching the loaded trailer at the destination station without waiting for receipt, as is the usual way, the driver proceeds immediately to the congested point where a large number of the loaded trailers are awaiting delivery. The transferman at the receiving station is instructed to check up the load with the receiving clerk.

A time schedule is prepared by the company to which, barring accident, the drivers must strictly adhere. Drivers are required to make a daily service report to the chief dispatcher, showing the tonnage of freight handled, service performed, the time consumed in each trip and other necessary information. (See the accompanying form). In case any delivery is made behind the schedules time, an explanation must be made on the report so that the company can provide remedial measures.

A bonus system has been adopted by the Columbia Terminals Company for the purpose of encouraging the employees of the company to handle traffic promptly. A weight quota is assigned to every driver and helper, equal to a certain percentage of the freight delivered or transferred on the day to the loading clerk and superintendent. After the quota is filled any extra weight handled is rewarded by a bonus. It is said that the gain from the prompt handling of traffic has much more than offset the money spent on the bonus system.

The efficiency of the operation is illustrated by the following statistics. In 1932, the Columbia Terminals Company owned 104 tractors and 444 trailers; the ratio is one tractor to every four trailers. On the average, the company handled from 5,000,000 to 6,000,000 pounds of freight daily. That is to say, every tractor hauled approximately 57,690 pounds and every trailer 13,500 pounds of freight daily.

The average daily movement of freight in different kinds of service is estimated by the company as follows:(39)

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(39) Letter of May 24, 1931, Mr. L. W. Childress, President of the Columbia Terminals Company, May, 14, 1931.

Through outbound off-track stations—2,000,000 pounds
Through inbound off-track stations—1,500,000 pounds
Through direct delivery —very small portion
Interline transfer —2,000,000 pounds

The speedy movement almost entirely eliminates the terminal congestion in St. Louis. As soon as the freight trains reach the east side terminals the shipments destined to west side lines are loaded into the waiting trailers, in most cases the freight does not touch the platforms, but goes directly from the cars to the empty trailer. After the loading work has been completed, the dispatcher assigns a driver to haul the loaded trailer to its destination. The maximum time between arrival of freight at one railroad station and its delivery to another is said to be six hours, in comporison with about fourty eight hours when the railroads attempted to perform the terminal service with railroad freight cars. The actual time required to make an average run between stations, or between on-track and off-track stations, is twenty minutes.(40)

Through the trucking method claims for loss and damage to freight have been reduced to a negligible percentage. It is reported by the company that the damage record for three years from all causes amounted to 0.0027 per cent of the revenue earned on outbound shipments, and 0.0031 percent on inbound. Loss and damage claims amounted to 0.0033 per cent of the total revenue for the period January, 1927 to June, 1928. inclusive.(41)

### Universal Inland Stations

Another form of off-track station system, known as the "universal inland station", is worthy of mention here, although it is simply a consolidation of numerous inland stations into one system. Its underlying principle may be likened to that of the union passenger station jointly operated by several participating lines and its operation is similar to that of any individual off-track station, as referred to in the foregoing paragraphs, except on a much larger scale.

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(40) Shannon, Homer H. "The Truck in Terminal Service", Traffic World, May 24, 1930, P. 1393

(41) Wilson, G. Lloyd, "Co-ordinated Motor-Rail-Steamship Transportation," Chapter IV, P. 46.

The unique example of this system can be found in the New York universal inland station plan, the first one of its sort established, in an attempt to solve the terminal problem in the great port, by the municipal authority. Under this plan a station building was constructed at the joint expense of the States of New York and New Jersey, to be leased to the railroads serving this district. All inbound I. C. I. freight will be delivered by trucks from the Jersey side to this station for distribution, and all outbound I. C. I. freight concentrated there for rehandling to the railroads.

The number of universal inland stations will necessarily be increased from time to time as the conditions caused by the future growth of traffic in New York may warrant. The Port Authority of New York is empowered to select the site of the station where shipments from every direction can be delivered and collected most conveniently. This system will not be confined to the Borough of Manhattan, but it will spread to other parts of this district as well. The first station was erected on Manhattan Island as a new channel to accommodate the unusually heavy inflow of freight traffic. Under the auspices of the Port Authority of New York, the first project with an estimated construction cost of $16,000,000 was commenced in 1931 and completed in 1932.

This building of 15 stories occupies the entire block between 15th and 16th Streets and 8th and 9th Avenues in New York City. It provides sufficient space for the use of 12 trunk lines serving that district. The size of the structure is as follows:

| | |
|---|---|
| Total floor space | 3,000,000 sq. ft. |
| Outbound freight platform | 20,000 sq. ft. |
| Inbound freight platform | 30,000 sq. ft. |
| Parking space adjoining outbound freight platform | 32 trucks |
| Parking space adjoining inbound freight platform | 35 trucks |
| Office space | 50,000 sq. ft.(42) |

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(42) I.C.C. Docket 19715, testimony of Billing Wilson for Port of New York Authority.

The basement and the ground floor are assigned to receiving and delivering freight platforms, while the upper floors are used for storage. In handling freight to or from the upper floors freight elevators equipped for an aggregate capacity of 80,000 pounds are used. These elevators can lift whole truckloads at one time. Platforms for outbound and inbound freight are separated, one side for receiving and the other for delivering.

Several noteworthy points in the construction are:

1. Parking space for waiting trucks is provided inside the building to accommodate 32 trucks along-side the outbound freight platform and 35 trucks alongside the inbound freight platform, so that the street congestion can be reduced to a great extent and the waiting trucks will not interfere with other traffic.
2. Numerous archways, which are recessed inside the building are constructed, through which the trucks may be backed up at the freight platform in order to perform the loading and unloading work without using the space in the street.
3. The building provides elevators, heating, electric lights, plumbing and ventilators, except such freight handling equipments which should be furnished by the trucking operator.

The port Authority does not undertake the operation of the inland station, but leases it to the railroads. At first the Port Authority petitioned the Interstate Commerce Commission to make the use of this station compulsory for the rail carriers serving the port, so that the economy of large scale operation could be obtained. The Commission declined the application on the ground that it is not empowered to require carriers against their will to provide and maintain freight stations.

Economic Benefits Derived from the Universal Inland Station.

The operation of inland stations on an individualistic basis is far from satisfactory, because it is wasteful in an unnecessary duplication of facilities, and also because the service is inefficient. Since every railroad maintains its own off-track station the shipper, with freight for delivery to two or more railroads, is required to make a separate trip to each station or make a split delivery. Sometimes trucks peddle freight to as many as 15 inland stations. This operation involves extra expense and delay to the shipment, for these factors are in direct ratio to the number of deliveries made. Similarly, the railroads meet the same difficulty in peddling freight from their own stations, or between stations of different roads. The trucks have to make longer hauls and cross movements in order to gather freight from scattered points.

The universal inland station system eliminates all those defects by concentrating all shipments at one point, which benefits the shipper as well as the rail carrier, To the shippers and receivers in the New York district, the direct saving, as estimated by the Port of New York Authority, will amount to as much as $12,000,000 annually, resulting from:(43)

1. Shorter truck hauls,
2. The elimination of Cross hauling and necessity for making split-deliveries,
3. The elimination of delays to trucks now suffered on account of inadequate tailboard space at bulkhead and pier station, and
4. The heavier loading of vehicles for concentration of shipments at one point.

Other advantages which can hardly be measured in terms of dollars and cents, are also important. Since consolidated shipments can be sent to the universal station for redistribution, there is better opportunity for shippers of l.c.l. freight to pool their shipments in carloads and thereby obtain lower freight rates. The cheaper storing place provided by the universal station benefits the consignees most. They may collect a part of their shipments for immediate use and store the remainder in the station.

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(43) "Improved and Economic Freight Service for Manhattan," by the Port of New York Authority, Aug. 1925, p. 11.

In this way, there is at least a saving in the cartage and handling expenses. Moreover, by having equal access to all rail carriers and other transportation agencies, dealer territory distribution is considerably widened and the cartage charges on trans-shipments are reduced. This system is, moreover, a constructive step towards the store-door delivery system by using the station as medium between the rail and truck carriers.

The railroads serving this port also will profit by this system, since the rental for the universal station is much lower than that for the waterfront stations. a reduction of overhead and operating expenses is estimated as high as $2,000.000 annually. In addition to this. it is possible for the rail carriers to obtain benefits of great consequence through consolidation of freight in the make-up and loading of cars at the break-bulk platforms at the terminal. In this way not only the number of cars needed for loading Manhattan freight can be reduced to a great extent, but the destination loading of freight cars can be secured by assembling shipments from other adjacent places in this large terminal district.

The relief of traffic congestion at streets leading to the pier stations and inland stations is valuable to the general public. Under the former plan light trucks with comparatively small loads were jammed in the station area. This. naturally, interfered with the flow of automobile traffic. Under the present system all waiting trucks can be harbored inside the building and when doing loading and unloading work trucks are recessed in the archways without hampering the movement of other traffic. Heavier trucks are also used for the concentrated shipment. This permits a small number of trucks handling larger quantity of freight as compared with the former practice. It is estimated by the Port Authority that under the new system the number of railroad trucks operating on the south side of 59th Street can be reduced about 50%, thus relieving the traffic jam in the most congested section of the city.(44)

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(44) I.C.C. Docket 19715, Record 1454, testimony of Billing Wilson, for port of New York Authority.

# CHAPTER IV

## Co-ordinated Terminal Service

## (Continued)

### Trucking in Lieu of Lighterage Services.

Lighterage and carfloatage are necessary parts of the railroad freight services of carriers which serve port cities where no physical connections can be made by rail. Owing to this handicap a railroad cannot make delivery by means of switching services but must employ lighterage or carfloat services to convey freight or freight cars across the river. At many large ports of this country, such as New York, San Francisco, Philadelphia, and Baltimore, the rail carriers usually give free lighterage service. It is a common practice to have a certain area around pier stations designated by the railroads as a free lighterage limit, within which the lighterage charges are absorbed into the line haul rates and shippers are exempted from such expenses.

Trucking in lieu of lighterage is simply an alternative of lighterage service operated by railroads. Under this system a shipment is delivered by trucks from the railhead to the pier or off-track station within the lighterage limit without additional charge. When a railroad adopts such a service a clause is usually inserted in its tariff similar to this:

> Whenever the term lighter or lighterage is used, the railroad company reserves the right to have the freight trucked under the same rates and conditions as would apply if the freight were handled by lighters. (1)

This kind of substitution was initiated in the St. Louis terminal and later introduced at the port of New York. The New York service is by far the most important development in terminal operations, because of the huge volume of traffic handled by the lighterage service and the seemingly unsurmountable physical obstacles in this area. Although trucking service in New York has been limited to the interchange of traffic between railroads and steamship lines since 1929, nevertheless, its experiment offers a fertile source of study to those seeking for a solution of the problem of terminal operations.

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(1) B. & O.—I.C.C. 20780, Supplement No. 6, rule 2.

A preliminary survey of the physical and traffic conditions of the port of New York seems to be necessary before going into the discussion of trucking in lieu of lighterage service. The great New York district embraces an extensive mainland area in New Jersey, and in New York, part of Long Island, Manhattan Island and Staten Island. From the commercial and industrial point of view Manhattan Island is the most important center, despite its being surrounded by rivers.

## The Traffic Situation at the Port of New York.

New York is the largest consuming center in the country. The population of the city of New York and its adjacent territory is approximately 9,000,000. The problem of supplying the daily needs of such a huge population is a tremendous task. In serving this large port the railroad plays an important role, exceeding that of any other transport agency. It is estimated that 75% of fruits and vegetables, 90% of dairy products, and 98% of fluid milk come into the New York District by rail. Four hundred thousand carloads of perishable commodities are received each year; 12,000 tons of foodstuffs are required daily; fruit comes to New York from as far away as California; and the average length of haul to this port is 1,500 miles.(2)

In addition to facing such unusual heavy freight movement, the physical limitations of Manhattan Island make it difficult for rail carriers to provide adequate facilities to handle them.

Of twelve trunk lines serving the New York district only three railroads have all rail connection on the eastern side: namely, the New York Central Railroad, operating freight stations on the western edge of Manhattan; the Baltimore and Ohio Railroad, on the north end of Staten Island; and the New York, New Haven and Hartford

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(2) I.C.C. Docket 19715, Exhibit 74.

NEW YORK TERMINAL

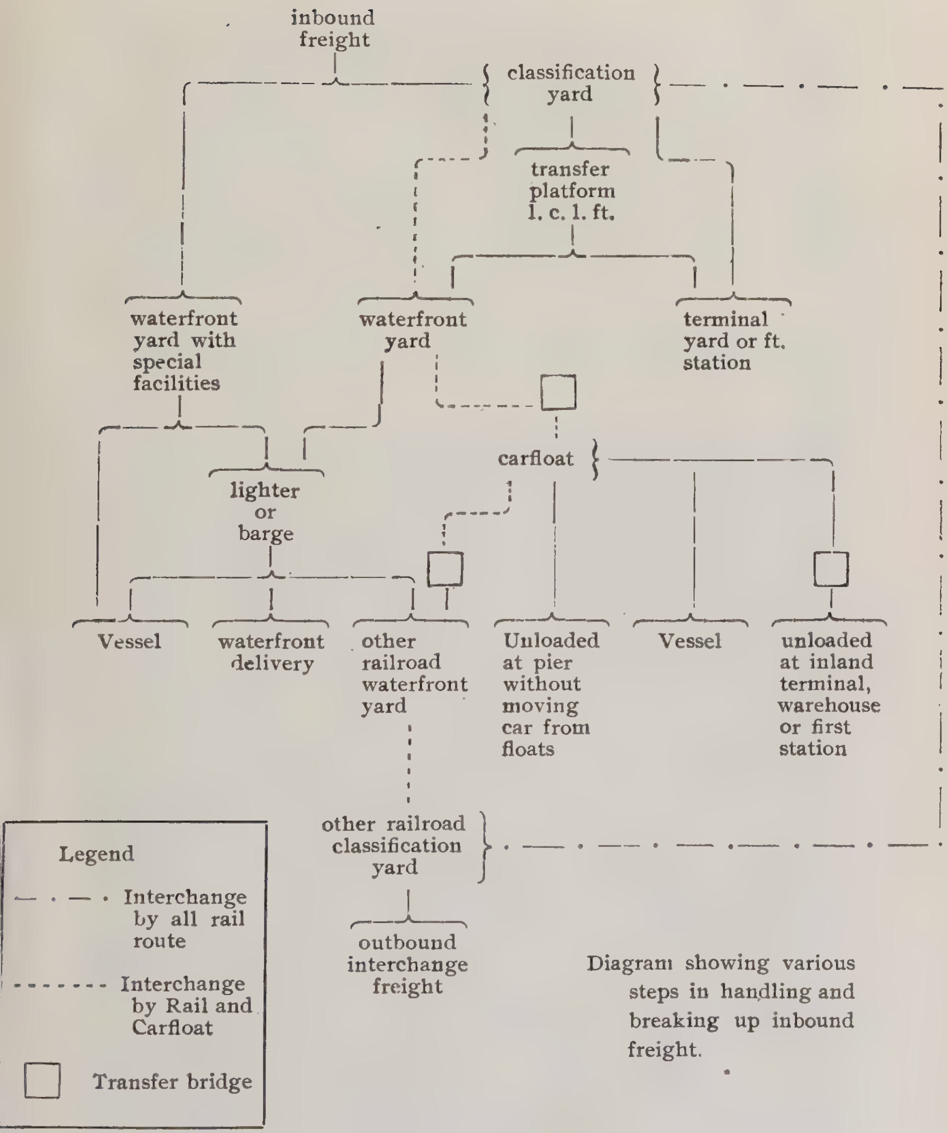
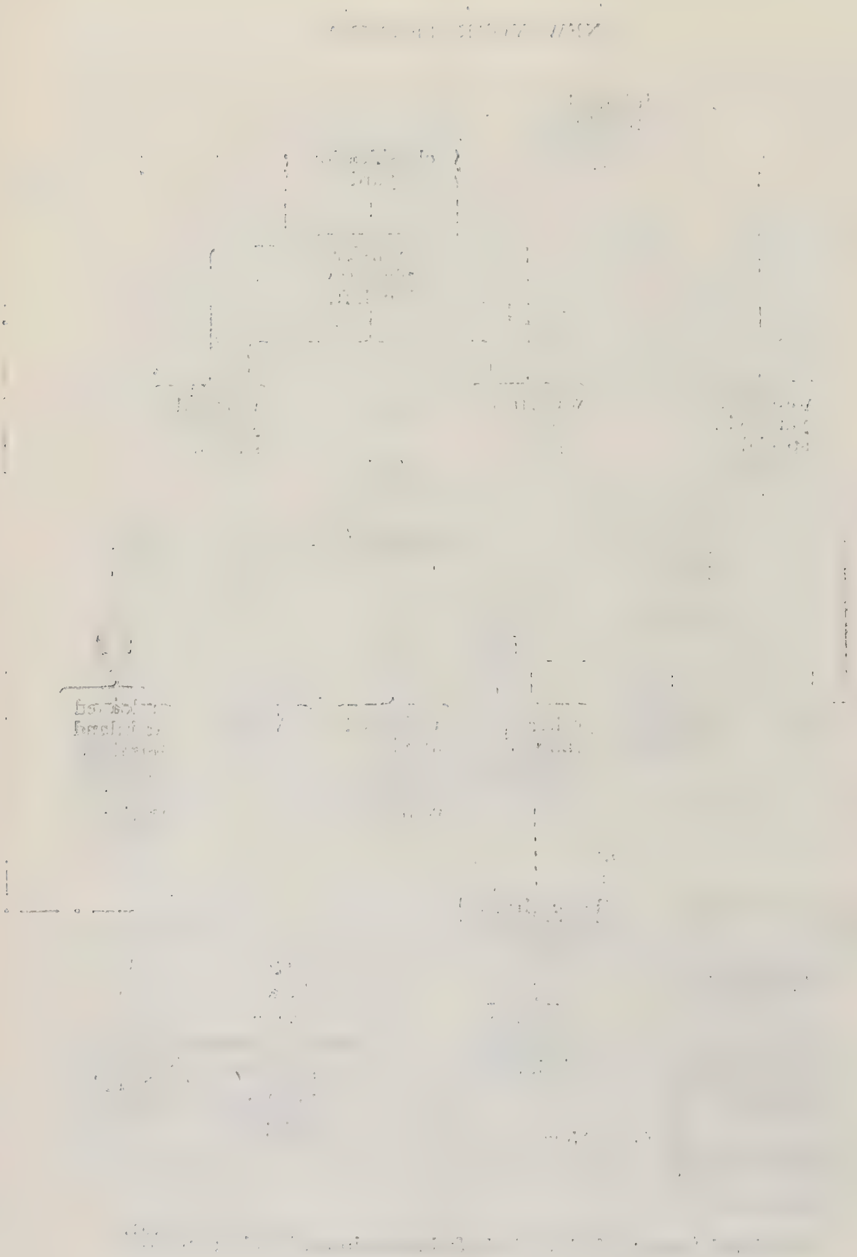

inbound freight
classification yard
transfer platform l. c. l. ft.
waterfront yard with special facilities
waterfront yard
terminal yard or ft. station
carfloat
lighter or barge
Vessel
waterfront delivery
other railroad waterfront yard
Unloaded at pier without moving car from floats
Vessel
unloaded at inland terminal, warehouse or first station
other railroad classification yard
outbound interchange freight
Legend
Interchange by all rail route
Interchange by Rail and Carfloat
Transfer bridge

Diagram showing various steps in handling and breaking up inbound freight.

"Regional Survey of New York & its Environs," Vol. 4, p. 109.

1928



Railroad, in the Bronx. All other lines are compelled to maintain waterfront stations on the Manhattan side, and to receive their consignments from the Jersey side either by the carfloating method or by lighterage. Usually carload freight is floated across the river on carfloats and the l.c. l. lots by lighterage. An intensive study of this situation was made by the engineers of the New York, New Jersey Port and Harbor Commission which showed that it would be impracticable to provide sufficient belt line trackage on the Manhattan side to take care of the freight movement to and from the island.(3)

In one of the most exhaustive studies of the New York terminal situation, Commissioner James S. Harlan states:

> "The conditions in the Borough of Manhattan differ materially from the conditions characteristic elsewhere. The public team tracks of the carriers by comparison with the requirement of the community, are inconsiderable in number and capacity; and there are relatively few spur and side tracks leading to warehouses, factories and industries Even if the limited opportunity for extension and multiplying such facilities is available of........the equipment of Manhattan in team and spur tracks would still be small in proportion to the equipment of other cities. This is due to the fact that Manhattan is an island; its real estate values are high; its streets have long been laid out and are closely built up with costly structures and there is but little room for additional yards, teams and spur tracks and other rail facilities. The result is that practically all carload package freight must be handled by carfloats to and from the pier."(4)

A diagrammatic representation of the various steps is shown in the next figure which traces inbound freight consigned to the west side of Manhattan to any one of six general types of destinations. A reverse movement would be required for outbound freight which is much smaller in quantity. The diagram gives some indication of the magnitude and intricacy of the problem and a general description of the processes involved may assist in its interpretation.(5)

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(3) Communications to the Governors of New York and New Jersey in Reference to the Lighterage and Trucking Service, by the Port of Authority. 1929.

(4) Commissioner James S. Harlan's Report to the Director General of the Railroad, March 19, 1918.

(5) Regional Survey of New York and Its Environments, Vol. 4. p. 109.

The inbound freight comes in large trains direct to the main break-up yards of the individual railroads where the cars are classified according to destination. The l.c.l. freight bulk is broken at transfer platforms and this type of merchandise is grouped for delivery to individual freight stations. All classified freight is then made up into small trains and that which requires water transportation is hauled to a waterfront yard, where it is again classified. Freight which can reach its destination by rail is run into yards equipped for team track delivery or placed in freight stations or warehouses. Freight trains of special commodities, such as grains or coal, are often sent direct from main line tracks to waterfront yards equipped with special handling facilities.

The water movement is handled by running the cars directly upon carfloats or unloading them into lighters or barges. The lightered freight is sent direct to the receiving point designated by the consignee. Carfloat freight is either delivered direct to the pier or the vessel or the cars are run into terminal yards equipped with team track delivery, warehouse or freight station facilities.

Lighterage.

Prior to the inauguration of trucking service by the rail carriers the pier station facilities of the railroads were so overtaxed and congested that it was frequently necessary to impose embargoes against their use, thereby hindering the normal flow of freight traffic. Freight was piled on the pier and a shipper did not receive his carload of freight for several days. Wagons and trucks lined up for hours before they approached the platform to load and unload, this delay imposed additional heavy expense on the freight receiver and caused serious street congestion. The freight backed up into the rail terminals on the Jersey side because the inability to unload cars promptly at the pier stations. Every day about 3,000 cars were transferred between the railhead and the pier stations on Manhattan. At all times 150 carfloats were piled up at the pier slips.(6) The railroads were unable to enlarge their facili-

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6. Economic Freight Service for Manhattan, New York Port of Authority, 1925.

ties to any appreciable extent, due either to the prohibitive cost of real estate on the waterfront or to limited space.

The year 1921 saw a new era in the transportation system in New York. After several conferences with transportation, business and municipal interests, the Port of New York Authority recommended the establishment of motor service between the railroads of the port district and the Island of Manhattan.(7) The pioneer line using the trucking service in lieu of lighterage service was the Erie Railroad. Its primary motive was to use the new service as supplementary to the inadequate pier terminal facilities. At that time the Erie Railroad had only two piers on the west side of lower Manhattan. The influx of freight and vegetable traffic left practically no room for ordinary merchandise and the railroad was faced by the increasing possibility of the loss of l.c.l. traffic. In order to take care of non-perishables, the railroad adopted a new means of retaining those types of traffic. By arranging with local truckmen, who acted as the agents of the railroad, freight was hauled from the Jersey side to the Manhattan by trucks instead of lighters. This substitution proved so successful that in 1927 practically all the railroads serving the port adopted the same method, even the New York Central Railroad, having all rail facilities on the Manhattan side, operated three pier stations on lower Manhattan and used trucking in lieu of lighter age. The following table marks the rapid growth of this method since 1921.(8)

Trucking in Lieu of Lighterage

| **Railroad** | **Date Effective** | **Contractor** |
|---|---|---|
| B. & O. | Sept. 15, 1929 | No cotract with special company |
| C. V. R. R. | Dec. 2, 1927 | Seamon Trucking Company<br>The Motor Hauling Company |
| C. N. J. R. R. | June 15, 1927 | Rovoli Trucking Corporation |
| D. L. & W. | May 1, 1925 | Railway Motor Trucking, Inc. |
| Erie | Nov. 10, 1921 | U. S. Trucking Corporation |
| Lehigh | Dec. 29, 1924 | U. S. Trucking Corporation |
| N.Y.N.H.&H. | March 24, 1924 | U. S. Trucking Corporation |
| N. Y. C. | Aug. 25, 1926 | 34 Trucking companies |
| P. R. R. | Oct. 18, 1926 | Motor Haulage Corporation |

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7. Anonmous, "Terminal Relief by Direct Freight Delivery" Railway Age, Sept. 16, 1922, p. 514.

8. I. C. C. Docket 19715, Exhibit 16.

Two kinds of trucking service are used in the New York terminal in place of lighterage operation. One is the actual delivery at pier stations, which is merely a substitute for lighterage movement, while the other is constructive trucking in lieu of lighterage service. The latter includes pick-up or delivery service. Under the first method of operation the trucking company is the agent for the contracting railroad, and may have no contact with the shippers. When inbound traffic reaches the bulkhead on the Jersey side the railroad gives a lighterage order to its contracting truckmen, informing them that certain shipments are to be transported to certain pier stations. This lighterage order, issued by the lighterage department of the railroad, is an identification enabling the truckmen to move freight from the cars to the trucks at the railhead. Upon receiving the order, the truckmen dispatches a fleet of trucks to the team track where the freight cars are spotted. After the trucks are loaded from the cars, they move either through the Holland Tunnel or by ferry to the designated pier stations on the Manhattan side. The truckmen assume full responsibility for all shipments in their custody until the goods have been unloaded at the pier station. Since the service is a substitute for lighterage, all trucking charges are borne by the railroad, and no additional expenses are imposed upon the shippers. Most of the lines limit this service to inbound freight, because the flow of freight is heavier in that direction.

Under the second method, the operation of the constructive lighterage service, as the railroads call it, is similar to the first method, but the trucking charges and the responsibility are divided between the rail carrier and the shipper.(9) The trucking charges for moving freight between the railhead and the constructive point are borne by the rail carrier, while between that point and the storedoor the charges are borne by the shipper. The same imaginary point divided the responsibility upon shipments under this service. Trucks do not unload their ladings at the pier station but continue their trips to their final destinations. In handling inbound traffic, prearrangement

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9. I. C. C. Docket 19715, Record 2097.

must be made between the trucking company and the consignee. In certain cases, the truckman, knowing that certain shipments arrived at the Jersey side, solicits business by telephoning to the consignees and asking for instruction to take out the shipment. In other instances, shipments are designated in care of the trucking company by the shipper. In either case, the truckman, acting as the agent of the trader, files with the railroad agent the name of the shipper or consignee, the description of the shipment, and the proper shipping bill. Then he picks up the shipment on the Jersey side without waiting for the notice of arrival and delivers it to the store-door of the consignee. In handling outbound traffic the lighterage agent of the railroad is authorized to direct both trucking and lighterage services. It is he who decides whether the shipments should be transported by trucks or by lighters, but in most cases upon the request of the shippers, trucks may proceed to the railhead without unloading at the pier station. All such trucking service is performed by certain recognized trucking companies which are the agents of the railroad.

Both shippers and carriers are satisfied with the substitution of motor truck for lighterage service. The motive which lead to the limitation of the service to the interchange of traffic between the railroads and steamship lines is due, for the most part, to the keen competition among railroads themselves and their trucking agents. The rail carriers feared that if the trucking service for shippers continued to expand, the absorption of trucking charges into the rail rates would be inevitable. Therefore, they suspended a part of the trucking operation.

The trucking service was highly praised by Examiner Ames, the presiding official, in the New York hearing. In his tentative report, he said:

> "It is humanly impossible to have sat through this hearing and through the hearing on a similar question in St. Louis, listening to the unfolding of the terminal problems of these two great shipping centers, without becoming deeply impressed with the tremendous advantages to be gained by carriers and shippers in a proper sytsem of trucking co-ordination.............................................

> If the carrier makes an honest effort to establish facilities of the character indicated, they will ultimately succeed in materially reducing their terminal cost."(10)

## A Comparison of Operating Costs between Lighterage and Trucking Operation.

The most significant feature of the trucking service is the saving in operating costs. It has long been conceded that the operating costs of lighterage service are very heavy, whether the service be performed by the railroad itself or through a contracting lighterage company. In performing this service, the railroad is compelled to invest large sums of money in waterfront stations and other facilities. Invariably the labor cost of this service constitutes a heavy burden on the railroad. Under the general handling method, carload freight is loaded and unloaded by the shipper and the consignee respectively; but in the lighterage service, the railroad holds itself responsible for loading and unloading whether the shipment be carload or less than carload.(11)

In view of the inefficiency of pier station operation, the Pennsylvania Railroad, in 1926, made an investigation to ascertain the operating cost of the pier stations on the Manhattan side. The investigation disclosed that the average handling costs amounted to $2.74 per ton for all kinds of traffic, i.e., carload, l.c.l., and perishable. The following table shows them item by item.(12)

| | |
|---|---|
| Platform maintenance in pier station | 17% per ton |
| Labor costs, unloading freight from car to platform | 79% per ton |
| Other labor costs, wages for policing, officials and special agents | 30% per ton |
| Cost of carfloating | 73% per ton |
| Maintenance of carfloating equipment | 13% per ton |
| Switching at Jersey City | 20% per ton |
| Clerical service at pier station | 15% per ton |
| | $2.74 per ton |

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(10) I.C C. Docket 19715, Examiner's Report.

(11) Huebner, G.G., and Johnson, E.R., Railroad Freight Service, p. 191.

(12) I.C.C. Docket 19715, Record 1908-1916.

It will be observed from the foregoing table that the labor costs and the cost of carfloating amount to 75% of the total expenses; pier rental, 10%; other incidental expenses, 15%.

A further analysis by the same railroad revealed that the handling costs of L.C.L. traffic through the lighterage operation are exceedingly high compared with other kinds of traffic. In the following pier stations, the average cost per ton for L.C.L. freight ran as high as $4. 52.(13)

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| In Pier 27 | Carload | freight | average | handlind | cost | $2.05 | per | ton |
| | L.C.L. | ,, | ,, | ,, | ,, | $4.90 | ,, | ,, |
| | Perishable | | ,, | ,, | ,, | $2.40 | ,, | ,, |
| In Pier 4 | Carload | ,, | ,, | ,, | ,, | $2.09 | ,, | ,, |
| | L.C.L. | ,, | ,, | ,, | ,, | $3.91 | ,, | ,, |
| In Pier 37 | Carload | ,, | ,, | ,, | ,, | $1.84 | ,, | ,, |
| | L.C.L. | ,, | ,, | ,, | ,, | $4.61 | ,, | ,, |
| In 125th St. Pier | Carload | ,, | ,, | ,, | ,, | $3.14 | ,, | ,, |
| | L.C.L. | ,, | ,, | ,, | ,, | $4.69 | ,, | ,, |

By contrasting the above figures with the trucking rates we can see that tremendous saving can result through the substitution of motor for lighter service. For the same amount of freight the trucking charge costs the P.R.R. only 8½% per 100 pounds, or $1.70 per ton. The saving is $1.00 per ton for all kinds of traffic and is still higher for l.c.l. traffic. The economy of trucking is largely due to the reduction of labor cost by the elimination of unnecessary handlings. For instance, in loading and unloading freight cars on the Jersey side, the truck is backed up to the door of the freight car, so that the shipments can be moved horizontally from the car to the truck or vice versa. This saves a great deal of labor in hoisting the shipments.

## The Reduction of the Rental of Pier Stations.

Through the development of the trucking service, substantial savinges have been effected. Railroads have been enabled to abandon some pier stations or to use them for other purposes. During the period of trucking service in the New York port area, the New York, New Haven and Hartford Railroad had abandoned piers 31 and 70 and saved a tremendous sum formerly spent for their rental, maintenance and operation. Furthermore, pier 27 was leased to a subtenant and pier 28 was available for increasing traffic. The agent of the same railroad testified before the Interstate Commerce Commission," it has been the hope of the N. Y. N. H. & H. Railroad that such trucking service could be enlarged to such extent that it would dry up pier handling almost entirely. Maximum economy can be effected by giving up the piers, the lighterage, and the pier division of the marine department." (14) Similar changes were experienced by other lines after they adopted trucking service in New York. The Central Railroad of New Jersey saved a rental of $ 45,000 annually as the result of the abandonment of one pier station. The Pennsylvania Railroad and the Lackawana Railroad leased some of their pier space to steamship companies or to warehouses.(15) Moreover, the rental of space in inland stations is very much less than the rental of waterfront piers.

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(13) Ibid, record 190

### The Advantages to the Shippers.

To the shippers in New York the trucking in lieu of lighterage service is a great asset. It is so efficient and economical that even those companies, which keep their plants at the waterfront and have pier station facilities, find it advisable to use the trucking service instead. Briefly, the advantages may be stated as follows:

The Saving in Handling Expenses.-The trucking service eliminates unnecessary handlings of freight in the terminal operation, especially in the constructive trucking service. Under this service the truck is backed-up at the door of the freight car and the freight is moved horizontally to the truck. After crossing the river, the truck proceeds directly to the consignee's store. For outbound traffic the operation reverses the order. The service saves a tremendous amount of handling expense to the shippers in New York. Customarily, the loading and unloading of freight from the truck to the platform of the pier station must be performed

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[14] Ibid, testimony of C. E. Smith, Vice President of the N. Y. N. H & H. R. R. Record 138.

[15] Ibid, Record 663.

by the so-called "public loaders", who are neither railroad nor municipal employees but a kind of labor union, organized long before the entrance of the railroads in New York City. The compensation for such a service is at a rate of 3 cents per hundredweight and is paid by the shipper or consignee. This amount is saved by trucking service.

Expeditious Movement.-The efficient handling of shipments by the trucking service expedites both inbound and outbound freight. For the inbound traffic, the average trucking time from the Jersey side to its final destination requires only six hours compared with 72-80 hours under the lighterage method.(16) Equally efficient is the outbound movement by the trucking method. This is substantiated by the experience of a large company in New York City. which shipped 44 carloads of freight by trucks in lieu of lighterage during the period of May 1, 1927 to May 1, 1928, of which 43 cars left the terminal at New York on the same day, and the order car the following day. During the same period the company shipped 155 cars of freight by lighterage service, of these, 125 left the terminal the day following the delivery to the lighter, and 26 did not leave New York until two days following the delivery to the lighter.(17) What happen to order 4?

The reduction in loss and damage to freight.—Owing to the fewer handlings in transit and the more expeditious movement, the trucking service also reduces the number of claims for loss and damage to freight. It was testified by many shippers before the Interstate Commerce Commission that when the goods were trucked over from the Jersey side, there was no pilferage and the goods arrived at the final destination in good shape; but where they were lightered there was considerable pilferage and the goods on arrival at the shippers' places were in such damaged condition that the packages required replacement or reconditioning.(18)

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(16) I.C.C. Docket 19715, Record 462.

(17) Ibid. Record 1752.

(18) Ibid. Record 1667.

The adoption of trucking in lieu of lighterage in the New York district benefits the whole community. In the opinion of the Port of New York Authority, a part of the waterfront on Manhatan Island must be released from railroad occupancy in order to assure the future development of this large port.(19) Under present conditions the railroads occupy about 30% of the waterfront space for pier station operation. It is impossible to find adequate berthing space for trans-Atlantic and coastwise steamships. The trucking in lieu of lighterage services diverts traffic from the pier stations and is a necessary step towards the reassignment of waterfront accommodations for various industries so as to utilize all facilities in the most advantageous manner. Furthermore, trucking service relieves street congestion which hampers the ordinary flow of traffic. In the delivery and receipt of goods by shippers and consignees at the pier stations, various kinds of vehicles are used ranging from horse-drawn wagons up to 50-ton motor trucks. Most of these vehicles handle relatively small loads and they cluttered the city streets leading to the pier stations. Under the co-ordinated trucking system freight is handled in the large type of motor vehicles up to 15 tons capacity directly to the inland stations, thus reducing the traffic congestion at the pier stations.

Although the advantages of trucking service are indisputable, opinions regarding the application of the service are divided. Some railroad officials hold the opinion that, unless the facilities of the pier stations are taxed to capacity, it is unwise to maintain both lighterage and trucking services at the same time. The duplication of services would destroy any savings to the railroads, but, on the contrary, would increase the operating costs. Since the diversion of traffic from pier stations to trucks saves the railroads only the direct labor cost and the railroads have to maintain the facilities and keep certain and clerical forces to take care of the remaining traffic, the unit costs of station handling would be unusually high where a portion of the facilities is unused. The savings from labor costs would seldom be sufficiently great tc pay the trucking charge, so that the railroad would be obliged to bear the higher expenses in maintaining both services.(20)

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(19) Ibid. Brief of the Port of New York Authority, p. 65.

Others hold that each system has its points of merit. In handling small quantities of traffic, the trucking service is a relatively efficient means, while in transferring large quantities of freight, the lighterage or carfloatage services have certain advantages. Moreover, the trucking service may be used to take care of the traffic which the consignees desire to have delivered at their stores, while the latter method can be used to handle traffic between railroads and steamship lines and large industrial plants.

Still others claim that the substitution of trucking for lighterage service should be effected gradually, so that the rail carriers can dispose of the floating equipment without suffering great loss. Perhaps the Long Island Railroad offers the best example in this field.(21) At the time of the installation of trucking service some of the carfloating equipment was obsolete. Instead of replacing it with new equipment the railroad used trucking service to supplement the existing lighterage service. Contracts were made with existing drayage companies for the rental of trucks, the railroad paying a rental based upon the units of equipment used, plus the wages of the truck drivers on a straight hourly basis. Without any extension of facilities the railroads could handle much more traffic than under the former system.

The physical formation of the terminals and the traffic conditions in these areas are the most important factors in determining the substitution of trucking for lighterage services. In certain cities where the traffic conditions are already congested, this substitution is unwise, unless there are new channels provided for the additional highway traffic. In Boston, for example, the Boston and Maine Railroad exchanges through traffic with the Merchants and Miners Transportation Company, a coastwise steamship line, by swtiching and lighterage operations at Mystic Wharf.

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20. Ibid. Record 2573.

(21) Ibid, Reocrd 1163.

The freight cars must be classified at the railroad terminals and switched to the pier station, where the ladings are transferred from cars to lighters. The traffic is exchanged much more slowly than the traffic interchanged by truck with other steamship lines located in the same locality. An investigation of the difference between these two services by the Boston and Maine Railroad revealed that in handling inbound traffic the trucking method of interchange reduced the time by one-third.(22) The average handling time between the docking at Boston and delivery at eleven principal New England destinations through the lighterage operation is 3.15 days. The same service is performed by truck operation in an average of 1.92 days.

Data show that about 91 per cent of outbound shipments handled by truck from the B. & M. R. R. at Boston to the piers of steamship lines were delivered on the same day to make connection with steamship sailings, only 8% were held one day and only 1% were held for two days. Under the switching method during the same period, cars were held at the pier on an average of three days, 23 out of 83 cars made the steamship sailing, 55 cars missed one sailing, and 6 missed two sailings.(23)

Despite the advantage mentioned above, the traffic conditions in this district prevent the adoption of the trucking method. Trucking operations between the B. & M. terminals and the piers of the Merchants and Miners Company must pass through the downtown section of Boston where the streets are already overcrowded. During the rush-hours traffic is almost at a complete standstill. Traffic handled over the Mystic pier through the lighterage operation amounted to 244,064 tons in 1926. In case the trucking method is used, the diversion of such a tremendous volume of traffic to highway vehicles would increase the traffic congestion in the city proper. The Interstate Commission held that the establishment of trucking service was not to the public interest under these circumstances.(24)

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(22) I.C.C. Docket 19384, Record 17.

(23) Ibid, Exhibits 15 and 16.

(24) 146. I.C.C. 435

## Trucking in Lieu of Trap Car Service.

The terms "ferry car" and "trap car" are interchangeable in practical transportation nomenclature. The former term is generally used in the Eastern territory and the latter in the Western territory. This service is a form of switching service for which carriers may or may not make a charge in addition to the linehaul rates. It has been the common practice in this country for carriers not to make additional charges for such services if the minimum weights prescribed by the tariffs are reached. This service being defined by the Interstate Commerce Commission in the following terms:

> "The term "trap" or "ferry" is applied to a car placed at an individual or commercial house having a private siding, and there loaded by a shipper with L.C.L. shipments and handled by a carrier to its local freight or transfer station for handling and forwarding of contents; and also applied to a car loaded with L.C.L. shipments which is handled to and placed upon the private track of an industrial or commercial house by a carrier from local freight or transfer station."(25)

Two principal motives impel railroads to establish trap or ferry car service. First, railroads seek to relieve the congestion in rail freight terminals, due to the heavy traffic movement, by diverting a part of this traffic to other stations so that the existing facilities may be sufficient to meet normal traffic demands. Under the trap car service shippers and consignees can load and unload their shipments at private sidings. This amounts to the expansion of railroad facilities.

Another equally important reason is the equalization of competition among railroads. As a rule every railroad serving the large cities tries to get a strategic location for its freight station where the shipping public can conveniently make collections and deliveries. This is not always possible due to the physical limitations of the cities or the prohibitive prices of real estate. Trap or ferry car services give those railroads which are located at less favorable points access to the industries of the cities.

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(25) 34 I.C.C. 516

Despite the above mentioned advantages, the service is not without its defects. To the railroad, the trap car service is too expensive in view of the large amount of equipment tied up in handling a small percentage of traffic and its operation is slow and complicated. From Shipper's point of view, this service is not very satisfactory, even where it is rendered free of charge. Shipments are usually delayed by numerous transfers at intermediate points. Outbound freight in trap cars is hauled to transfer station where the mixed L.C.L. lots are classified and reloaded into other cars according to their destinations. Inbound traffic is handled by reverse operation. It is not uncommon for shippers to send their L.C.L. shipments by trucks to local stations in order to get faster service, even though the rail carriers provide free trap car service. Furthermore, this service is open to the criticism that it constitutes unjust discrimination in favor of those traders who are equipped with private sidings and against the large number of average shippers who cannot take advantage of these services, and are obliged to compete with the more fortunately situated traders who enjoy this previlige.(26)

Since the advent of motor truck transportation the replacement of freight cars by tractors and trailers in trap or ferry car service has been extensively resorted to by many railroads in this country, because it is merely a substitution of facilities. All rules governing trap car service also apply to this service.(27) Free trucking services between the railroad stations and the shippers' warehouses are rendered to those shippers and consignees whose sidings are connected with those of the rail carriers, with the understanding that the shipments must equal or exceed the minimum weights prescribed in the tariffs. For those shippers without private siding, drayage charges are collected according to the local trucking rates. In performing this service, the carriers's responsibility ceases as soon as the shipments arrive at the traders' warehouses, and begins when the freight is removed from the shippers' premises. The rail rates on these shipments apply to and from the railroad stations and not from the shippers'or consignees' warehouses. Usually the trucking services are performed by trucking agents of the carriers.

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(26) Scarre, F. J.

(27) I.C.C. Docket 23400, Boston Hearing, Testimony of the Boston and Maine Railroad.

Tractors and trailers are well adapted to this type of terminal service. In handling outbound and inbound traffic, the trailers are detached from the tractors and placed at the shippers' warehouses for loading and unloading. In the meantime, the tractors are assigned to other work. In this way the maximum utilization of equipment can be assured. For trailers waiting for loading or unloading at the shippers' warehouses a free time period of 24 hours is usually given. If equipment is held beyond this time, demurrage charges are usually imposed similar to the demurrage charges upon freight cars. These detention charges are seldom imposed because shippers are eager to get expeditious service. Prompt loading and unloading practices are the rule rather than the exception. In most cases, the trailers delivered to the consignees for inbound traffic are used to haul outbound shipments. After the trailers are loaded, the railroad's station agents, upon request, send tractors to haul them to the railroad stations.

Trucking in lieu of trap car service is also used to link up railroad freight houses with main stations or outlying depots with the main stations. In this way the trucks not only expedite the movement of traffic to some extent, but also concentrate outbound freight in a few main stations so that the destination loading of cars may be made possible.

For instance, the Chicago, Milwaukee, St. Paul and Pacific Railroad uses this plan of motor-for-rail substitution in many Western cities.(28) At Milwaukee, Wis., there is a main freight house at second and Fowler Streets, and four outlying stations at West Allis, North Milwaukee, North Avenue, and Gibson, respectively. Under the former trap car service, outbound freight received at those outlying stations was loaded in trap cars which were moved by switch engine to the main freight house at Second and Fowler Streets. The main station, in turn, made up a daily trap car for each outlying station. To carry on this service about 400 trap-car-days were required each month. The best time for traffic through this service is the second day delivery, i. e., outbound freight received at outlying station did not reach the main station until the following day, and would not be hauled out in outbound train until evening of that day. Inbound freight was delayed in the same manner. Under the new arrangement, freight received at the outlying station and hauled by tractors and trailers, reaches the main station at the same speed as those delivered at the main station, a saving of 24 hours in the transfer between the main and outlying station.

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(28) Anonymous, "Trucks Replace Trap Cars on the Milwaukee", Railway Age, Dec. 26, 1931, p. 986.

Perishable freight has been handled by truck with equal success. For instance, the same railroad used tractors and trailers to replace the refrigerator cars between St. Paul, Minn., Minneapolis, Twin City Transfer, Charles Street and Hennepin Avenue. Minneapolis is used as the concentration base and all perishable traffic is delivered to that point and consolidated in one scheduled outbound train. This plan results in faster and better service and also in reducing expenses. It is reported that 10 refrigerator cars are released from the trap car service in that section and there is also a saving of incidental expenses, such as the expenses of cleaning and icing.(29)

In certain cases, the trucking operations are scheduled so that the outbound freight will be in time to be placed into a freight train and forwarded immediately, and inbound freight can be delivered early in the morning. Under this plan the main freight station will be arranged to open as early as 4. a.m. to provide the morning delivery of inbound freight to outlying stations, and to close as late as 6.p.m. to allow the last transfer from outlying stations to be sent out on the same day.

The result obtained through the substitution of trailers for freight cars has been summarized by the Missouri Pacific Railroad as follows:(30)

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(29) Ibid.

(30) Dueleet, D.O., "Trucking Instead of Trap Cars Effect Savings," Railway age, Jan. 25, 1930. p. 297.

1. The elimination of the twenty-four hour terminal delay, or advancing the forwarding twenty-four hours;
2. The saving of approximately 52 cents per ton on freight handled;
3. The saving of eight cars per day, or 214 cars per month.
4. The release of station space for handling of other transfer cars;
5. The saving of switching and demurrage charges on per diem rule; and
6. The use of freight cars for other profitable movements.

### Trucking in Lieu of Interline Switching.

The present section is devoted to the study of trucking service in lieu of inter-terminal switching and "line-haul switching". In the absence of standard terminology, the term "inter-terminal switching" is generally used to designate the switching movement between two places both of which are within the same switching limit, but on different lines of railroad, while the term "line-haul switching" means the switching services preceeding or following line-haul transportation services in which cars are moved from one station to another.(31) Line haul switching within certain areas is of vital importance to commerce and industry, because it consummates the major transportation service by the rail carriers in shipping freight from one place to another. Receipt of freight from shippers and delivery to consignees frequently requires the performance of a switching service. Moreover, since switching charges are usually absorbed into the line-haul rates, this service constitutes a serious drain on the railroad revenue.

The switching service is more complicated in the handling of L.C.L. freight. Freight cars are used only to a fraction of their loading capacity and the movement is delayed by the slow switching method. In this field trucking operation affords much faster and better service.

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(31) Huebner, G. G., and Johnson, E. R., Railroad Freight Service, pp. 185-190.

In studying trucking in lieu of switching service, no better example can be given than the practice in the Chicago and Cincinnati terminals. Here are no physical obstacles to terminal operation and the crux of the terminal problem lies in the large volume of interline traffic within congested centers of the business districts of the cities. Within the Chicago terminal there are more than 7,000 miles of railroad trackage, including 4,500 industrial sidings and 255 freight stations, 54 of which are located in the down-town area. The Chicago terminal is served by 37 railroads, of which 22 are trunk lines, 7 are belt lines, and 8 are industrial lines. Through interline switching service the freight handled within this terminal amounts to approximately 100,000,000 tons per year, excluding a vast volume of through traffic.(32) Approximately 2,000 cars of outbound freight and 1,100 inbound freight cars per day are handled through intra-terminal switching.(33)

There are two kinds of freight stations in the Chicago terminal. One is known as the "closed" station and the other the "universal" or "open" station. The difference between them lies in the fact that former type of station handles one railroad's business, while the stations of the latter type usually maintained by terminal railways, receive freight for all railroads which have contracts with them. Under this arrangement, freight is interchanged daily by switching service. Example of the so-called "universal stations" are: Hawthorn Station, on the Manufacturers Junction Railway; and Clearing and Cragin Stations, on the City Belt line.

For many years the flat Chicago rates have been applying to and from all universal freight stations, and the trunk line railroads hold themselves out to handle freight under their line haul rates to and from those stations. The switching charges paid by carriers in the

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(32) Scarr, F. J., op. cit.

(33) I. C. C. Docket I. & S. 3641, Testimony of the Manufacturers Junction Railway.

Chicago district to the terminal railways are fixed according to division sheets, which are not published in tariff form and filed officially with the Interstate Commerce Commission, but are handled in much the same way as divisions of through rates.(34)

Interline switching retards the freight movement to a considerable extent. In addition to a large amount of industrial switching, L.C.L. freight shipments originating from or destined to the universal stations are handled daily by interline switching. In many cases, such movements take more than one day to perform. Since some of the trunk lines do not have direct rail connection with the stations, it is necessary for them to switch cars through an intermediate carrier. This operation is not only cumbersome, but also expensive. For instance, in case the Manufacturers Junction Railway sends a car to the Chicago and Northwestern Railroad, the car must be routed through the Baltimore and Ohio terminal as an intermediate carrier. Therefore, the C. & N. W. R. R. has to pay both railroads for the switching charges.

In 1928 railroads in the Chicago terminal conceived the idea of using motor trucks in lieu of switching service between main and sub-stations as well as stations on different lines, but this arrangement was cancelled owing to objections from some of the railroads serving the district. In 1931 the Chicago and Northwestern Railroad established trucking service, under which the carrier, at its own option, may deliver L.C.L. freight either by freight cars or by motor trucks to or from the universal stations. Direct collection and delivery service is also offered when shipments equal or exceed the minimum weight. In the same year the other fourteen trunk lines and all terminal railways adopted the same service in the Chicago terminal.

The cardinal reason for the substitution of trucks for freight cars by the railroads is to meet trucking competition within that district. Heavy inroads into railroad L.C.L. traffic have been made by the highway carriers. One trunk line has estimated that the traffic diverted to highway carriers amounts to more than $400,000 in revenue per month on its line.(35) Within a radius of 200 miles from the Chicago district the trucking carriers offer overnight service, while the best that that the railroad can do is second morning delivery, due to numerous switchings within the terminal area.

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(34) I. C. C. I. & S. Docket 3641. Testimony of the Manufacturers Junction Railway.

Under the new arrangement L.C.L. shipments are hauled by trucks between universal stations and stations of trunk lines. The rail carriers are in a position to receive practically all freight delivered during the day, and move the shipments out in fast trains on the same day that it is received. This would be impossible under the former system.

The Manufacturers Junction Railway, one of the largest terminal carriers in the Chicago district, maintains contracts with fourteen trunk lines to handle both outbound and inbound L.C.L. freight between universal and close stations on each trunk line. Under the new arrangement the railway employes certain local truckmen to receive and deliver freight, according to the local trucking rates. When L.C.L. shipments are delivered to the universal stations the railway, acting as the agent for the originating line, issues bills of lading and other necessary shipping papers in the name of the originating line. Shipments are unloaded at the railway's platform and classified according to their points of origin. After that, those shipments are delivered by trucks to the respective stations in the downtown section. In certain cases, the railway's trucking contractors perform the collecting work at the shippers' warehouse without additional charge, if the shipment equals or exceeds the prescribed minimum weights. This service, however, as a substitute of trap car service, is limited to those shippers having private sidings. Otherwise, the truck charges will be collected according to the published tariff. In connection with inbound freight, the trucking contractors collect the shipments in the morning at all stations of the trunk lines and deliver to Hawthorn Station, where the shipments are ready for delivery to the consignees by afternoon of the same day.

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(35) I. C. C. I. & S. Docket 3641, Testimony of the Chicago, Northwestern Railroad.

36. Ibid, record 198.

In compensation for the trucking service the railroads pay 8 cents per cwt. in addition to the customary switching charge of 8 cents per cwt., or a total of 16 cents per 100 lbs. This increase is justifiable, because the new method of handling requires additional station force and more frequent service. As shown by the records of the Manufacturers Junction Railway, the platform expense has slightly increased since the adoption of the trucking service. The average platform expenses per ton were:

| | | | | | |
|---|---|---|---|---|---|
| year 1930- | $0.6467 | per | ton | (Basis for Comparison) | |
| Jan. 1931- | .6448 | ,, | ,, | .25% | increase |
| Feb. 1931- | .6493 | ,, | ,, | 4.03% | increase |
| Mar. 1931- | .6493 | ,, | ,, | ,, | ,, |
| April 1931- | .6510m | ,, | ,, | 7.29% | ,, |
| May 1931- | .6597 | ,, | ,, | 16.60% | ,, |
| June 1931- | .7193 | ,, | ,, | 27.73% | ,, |
| July 1931- | .7656 | ,, | ,, | 44.66% | ,, |

Despite the fact that railroads paid larger amounts of switching charges to the M. J. Railway, the average cost per unit for both outbound and inbound freight through trucking service is less than that under the former operating method. The following tables show the average cost of transferring outbound and inbound L.C.L. shipments between the M. J. Railway and the fourteen trunk lines in the territory in the months of October, November, and December, 1930.(37)

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37. Ibid, Exhibit No. 18, presented by the Manufacturers Junction Railway.

### Abreviations of the names of Railroads

| | |
|---|---|
| A.T. & S.F.R.R. | Atchison, Topeka, & Santa Fe |
| C. & E.I. | Chicago & Eastern Illinois |
| C. & G.W. | Chicago & Great Western |
| C. & I.L. | Chicago, Indianapolis & Louisville |
| C.M.S.T.P. & P. | Chicago. milwaukee, St. & Paul Pacific R.R. |
| C. & N.W. | Chicago, & Norther Western |
| C. & O. | Chesapeake & Ohio |
| C.R.I.P. | Chicago, Rock Island Pacific |
| N.Y.C.S.L | New York, Chicago and St. Lous R.R. |
| I.C. | Illinois Central |
| P.M. | Pere Marquette |
| Wab | Wabash |

Tables shown above, place the average handling costs for outbound freight at 21.5 cents per cwt., and for inbound freight 21.6 cents per cwt. Compared with present rates of 16 cents per hunderdweight, a saving of 5 cents per cwt, or $1.00 per ton is effected, or a reduction of 25% in the switching costs.

By using the trucks in lieu of freight car switching, the trunk lines have not only saved a large sum in operating expenses but have also reclaimed a large amount of traffic, owing to the saving of at least 24 hours time in transit. The trucking service enables the railroads to meet the service rendered by inter-city truck carriers. Freight is picked-up in the Chicago district one day and delivered to other cities, within a distance of 200 miles, the following morning. The desirability of the new service is proven by the increasing patronage enjoyed by the railroads since the change has been made. As revealed by an investigation held by the Chicago Association of Commerce, in case no trucking service were performed between the universal and closed stations, approximately 37% of traffic now handled through the Manufacturers Junction Railway would go to highway carriers.(38) The following table gives the full details:

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[38] Ibid, Exhibit No. 29. presented by C.E. Hochstedler, Traffic Director of the Chicago Association of Commerce.

Average Cost (to trunk lines under arrangement of transferring L.C.L. freight (Per cwt) from and to the M. J. Ry. Months of October, November, and December, 1930

**Note**:—Costs are shown for the fourteen trunk lines with which the M. J. has trucking contracts.

| Outbound:— | A.T.& S. F. (1) | C. & E. I. (2) | C. & G. W. (3) | C. & I. L. (4) | St. & P. (5) | C. & N. W. (6) | C. & O. (7) | C. R. I. P. (8) | Erie (9) | I. C. (10) | Son. (11) | N.Y.C. S. L. (12) | P. M. (13) | Wab. (14) | Average per Road | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. Cars | 142 | 147 | 59 | 79 | 107 | 164 | 81 | 81 | 90 | 156 | 72 | 94 | 56 | 100 | 102 | cars |
| 2. Tons | 753 | 767 | 145 | 261 | 504 | 1,095 | 529 | 408 | 433 | 1,246 | 189 | 302 | 139 | 501 | 518 | tons |
| 3. Av. Tons per car | 5.3 | 5.2 | 2.5 | 3.3 | 4.7 | 6.6 | 6.5 | 5.0 | 4.8 | 8.0 | 2.6 | 3.2 | 2.5 | 5.0 | 5.1 | |
| Cost per car:— | | | | | | | | | | | | | | | | |
| 4. Intermediate Swg. | $5.40 | 9.45 | 5.40 | 9.45 | 5.40 | 5.40 | 7.50 | 5.40 | 9.45 | — | 5.40 | 9.45 | 5.40 | 9.45 | 6.61 | |
| 5. Trunk line Swg. | $1.50 | 3.15 | 3.00 | 4.30 | 2.50 | 3.00 | 1.50 | 3.00 | 3.15 | 6.00 | 1.50 | 6.00 | 1.50 | 4.30 | 3.17 | |
| 6. Per diem & Reclaim | $4.10 | 4.10 | 4.10 | 4.10 | 4.10 | 4.10 | 3.34 | 4.10 | 4.10 | 3.34 | 4.10 | 41.0 | 41.0 | 4.10 | 3.99 | |
| 7. Total cost per car | $11.00 | 16.70 | 12.50 | 17.85 | 12.00 | 12.50 | 12.34 | 12.50 | 16.70 | 9.34 | 11.00 | 19.55 | 11.00 | 17.85 | 13.77 | |
| 8. Cost per ton (7-3) | $2.08 | 3.21 | 5.00 | 5.41 | 2.55 | 1.89 | 1.90 | 2.50 | 3.48 | 1.17 | 4.23 | 6.11 | 4.40 | 3.57 | 2.70 | |
| 9. Cost per cwt. | .104 | .161 | .250 | .271 | .127 | .095 | .095 | .125 | .174 | .058 | .212 | .306 | .220 | .179 | .135 | |
| 10. Division to M. J. Ry. Cwt. | .080 | .080 | .080 | .080 | .080 | .080 | .080 | .080 | .080 | .080 | .808 | .808 | .808 | .808 | .808 | |
| 11. Total cost to Trunk line cwt | .184 | .241 | .330 | .351 | .207 | .175 | .175 | .205 | .254 | .138 | .292 | .386 | .300 | .259 | .215 (21½c.) | |
| Inbound:— | | | | | | | | | | | | | | | | |
| 1. Car | 27 | 38 | — | 29 | 17 | 78 | 20 | 25 | 64 | 137 | — | 72 | 11 | 161 | 57 | |
| 2. Tons | 138 | 209 | — | 127 | 80 | 283 | 97 | 138 | 340 | 661 | — | 204 | 51 | 694 | 252 | |
| 3. Av. Ton per car | 5.1 | 5.5 | — | 4.4 | 4.7 | 3.6 | 4.9 | 5.5 | 5.3 | 4.8 | — | 2.8 | 4.6 | 4.3 | 4.4 | |
| Cost per car:— | | | | | | | | | | | | | | | | |
| 4. Intermediate Swg. | $6.30 | 6.30 | — | 9.45 | 5.40 | 6.30 | 7.50 | 6.30 | 6.30 | — | — | 9.45 | 5.40 | 9.45 | 5.58 | |
| 5. Trunk line Swg. | $3.00 | 3.15 | — | 4.30 | 2.50 | 3.00 | 1.50 | 3.00 | 3.15 | 6.00 | — | 6.00 | 1.50 | 4.30 | 2.96 | |
| 6. Per diem and Reclaim | $4.08 | 4.08 | — | 4.10 | 4.10 | 4.08 | 3.34 | 4.08 | 4.08 | 3.34 | — | 4.10 | 4.10 | 4.10 | 3.40 | |
| 7. Total cost per car | $13.38 | 13.33 | — | 17.85 | 12.00 | 13.38 | 12.34 | 13.38 | 13.53 | 9.34 | — | 19.55 | 11.00 | 17.85 | 11.94 | |
| 8. Cost per ton | $2.62 | 2.46 | — | 4.06 | 2.55 | 3.72 | 2.52 | 2.43 | 2.55 | 1.95 | — | 6.98 | 2.39 | 4.15 | 2.71 | |
| 9. Cost per cwt | .131 | .123 | — | .203 | .128 | .126 | .126 | .122 | .128 | .098 | — | .349 | .120 | .208 | .136 | |
| 10. Div. to J.J.R. cwt | .080 | .080 | — | .080 | .080 | .080 | .080 | .080 | .080 | .080 | — | .080 | .080 | .080 | .080 | |
| 11. Total cost to Truck line cwt | .211 | .203 | — | .283 | .208 | .266 | .206 | .206 | .208 | 1.78 | — | .429 | 206. | .288 | .216 | |

| Shipper | Approximate present monthly tonnage via M. J. Railway and Trunk line railroads | In the absence of present trucking arrangement between M. J. Railway and other trunk lines, the tonnage would be divided approximately | |
|---|---|---|---|
| | | Rail carriers | Highway carriers |
| No. 1. | 500,000 lbs. | 200,000 lbs | 200,000 lbs |
| No. 2. | 800,000 ,, | 560,000 ,, | 240,000 ,, |
| No. 3. | 100,000 ,, | 40,000 ,, | 60,000 ,, |
| No. 4. | 400,000 ,, | 266,667 ,, | 133,333 ,, |
| No. 5. | 100,000 ,, | 50,000 ,, | 50,000 ,, |
| No. 6. | 170,000 ,, | 133,333 ,, | 56,667 ,, |
| No. 7. | 70,000 ,, | 50,000 ,, | 25,000 ,, |
| No. 8. | 100,000 ,, | 40,000 ,, | 60,000 ,, |
| No. 9. | 300,000 ,, | 240,000 ,, | 60,000 ,, |
| No. 10. | 300,000 ,, | 180,000 ,, | 120,000 ,, |
| No. 11. | 225,000 ,, | 151,000 ,, | 75,000 ,, |
| No. 12. | 300,000 ,, | 225,000 ,, | 75,000 ,, |
| No. 13. | 125,000 ,, | 75,000 ,, | 50,000 ,, |
| No. 14. | 300,000 ,, | 120,000 ,, | 180,000 ,, |
| No. 15. | 125,000 ,, | 87,500 ,, | 37,500 ,, |
| | 3,920,000 lbs | 2,497,500 lbs | 1,422,500 lbs. |

Several features which justify this trucking service have been enumerated by shippers, including; (1) the trucking service expedites the freight movement by at least 24 hours, which meets the requirements of modern commercial practice in which frequent small shipments are necessary to replenish merchants' stocks; (2) the new service offers equal opportunity for those shippers whose plants are located out of the Loop district in Chicago, who under the new arrangement, may send their shipments and have them delivered on the same day without resorting to excess trucking charges; (3) since terminal railways also perform collection and delivery, a great deal is saved on trucking charges; (4) this service not only benefits the shippers of Chicago but the city in general by reducing the number of trucks moving from the outside districts to

Chicago through the Loop district for delivery to various freight station's, thus lessening the street and terminal congestion; and (5) loss and damage of freight has been reduced at least 50%. (39)

## The Cincinnati Terminal Practice.

Another method of solving the intricate terminal switching problem has been offered by Mr. B. F. Fitch, president of the Motor Terminals Company. As a result of his long study of freight handling at twenty-five terminals, Mr. Fitch draws the conclusion that under the rail handling method, terminal facilities are overtaxed by numerous ferry cars between main and sub-stations as well as by interline switchings within terminal areas for handling L.C.L. freight. Large capacity freight cars are employed to transfer a small percentage of L.C.L. freight in intra-terminal movement. He claims that the only logical and sensible way to remedy such a defect is to divert this portion of traffic to the motor and leave the through traffic for the rail.

The importance of interchanging L.C.L. freight at terminal has sometimes been underestimated, because railroads pay more attention to the line-haul than to the terminal service. However, the record indicates that this kind of service deserves special attention. In the year 1927, six typical eastern carriers handled 82% more L.C.L. freight than they originated; six typical carriers in the Southern Territory handled 66% more L.C.L. freight than they originated; and nine carriers in the Western district handled 53% more L.C.L. freight than they originated.(40)

## Origin of Cincinnati Practice.

With the approval of the United States Railroad Administration, the Cincinnati terminal was chosen as an experiment ground, because it is one of the most important terminal in the country, and, also, because its serious congestion seemed to be insurmountable without the aid of new facilities. Although there is no physical barrier such as the Hudson River at New York and the Mississippi River at St. Louis, the Cincinnati terminal presents its own difficult problem. The crux of this problem is the intra-terminal switching between the main and substations and between different lines. The railroad carriers entering Cincinnati located their first freight stations in the river front district to facilitate freight movement. Many new industrial districts have grown up away from the river and rail carriers have been forced to establish branch stations in those districts in order to meet the new traffic demand. Hence, ferry car service was necessary to handle L.C.L. freight to and from branch stations either for distribution or for consolidation, because the volume of traffic was being diffused to so many sub-stations that the destination loading of freight cars to or from those points was impossible. In addition to this, a considerable volume of L.C.L. traffic was interchanged between different lines. Usually, there were more than 200 cars utilized in the trap car service and shipments were delayed from 24 to 72 hours.(41)

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(39) Ibid, Record 147.

(40) I. C. C. Docket, 21723, Record 2883.

### Function of the Cincinnati Terminal Company.

In performing the transfer work within the terminal, the Cincinnati Terminal Company is the sole trucking agent of all rail carriers serving that district. Its main functions are moving L.C.L. freight by means of tractors and trailers between:

1. main freight stations of different rail lines,
2. main and substations of the same rail line, and
3. industrial sidings and rail freight stations.

Since the trucking service is merely a substitute for the trap car or switching service, the Terminal Company has no direct contact with the shippers.

The Cincinnati practice differs from the St. Louis system in that under the latter the Columbia Company performs loading and unloading work at both ends, issues bills of lading to shippers, and stores inbound freight awaiting collection: while the Cincinnati Company engages only in delivering the demountable body, as a unit, from one station to another and leaves all billing, loading and unloading work to the railroad.(42)

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(41) Wilson, G. Lloyd, Coordinated Motor-Rail-Steamship Transportation, Chapter V.

Another point of contrast with other systems is the use of equipment. Instead of using trailers, the Cincinnati Company uses large type containers, 18 feet in length, 8 feet in width, 7 feet 6 inches in height, with a loading capacity of 1,000 cubic feet. Despite the fact that its size is twice as large as that of L.C.L. type container, its tare weight amounts to only 3,200 pounds. At the container hearing before the Interstate Commerce Commission, Mr. Fitch strongly advocated the large type container as the best equipment for this transferring work on the ground that it not only saves time and expense in the crane movement but it also reduces the operating cost per unit.

Special anchorage devices are attached to the containers in order to safeguard the shipments while in transit. When the containers are put upon flat cars or trucks, the stirrupes are in position parallel with sides and ends of the container. All doors are automatically locked en route. They may also be lifted off the pin type hinges when they are opened to 90 degrees. These features reduce the amount of platform space required.

Operation.

The trucking operation serves a total of twenty-five stations on seven important lines: namely, the Baltimore and Ohio; Cleveland, Cincinnati, Chicago and St. Louis; Chesapeake and Ohio; Louisville and Nashville; Norfolk and Western; the Pennsylvania; and Southern railroads. There is a certain quota of empty containers assigned to each freight station. This quota is always maintained. When a tractor hauls out a loaded container an empty one is placed in exchange. On the platform the containers are arranged in order according to their destinations, that is to say, each container will be assigned to one station or destination.

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(42) Report of Engineering Committee on St. Louis Railroad Terminala, 1922. p. 194.

In handling containers to and from motor chassis, gantry crane facilities are provided by the railroads at each operating station. Generally speaking, the crane hoists the loaded containers from the platform to the waiting tractors. In certain cases, however the driveway is so constructed that the chassis are on a level with the platform, and the crane moves the containers horizontally to the waiting tractors. The same methods are applied to unloading the containers. The average time consumed in this transferring, as reported by the company, is less than five minutes.

In facilitating the loading and unloading of the containers, special driveways were constructed near the tracks where the freight cars wait to have their contents placed in the containers or the contents of the containers placed in the cars. The average distance from car to container was reduced from 450 feet to 56 feet. Moreover, the containers are now either lowered from the tractors to the platform of the freight house or suspended in the level of the floor, shipments being handled on hand trucks directly from containers to cars or vice versa. Thus no vertical lift is necessary in loading or unloading, and it is estimated that about 75% of hand labor is saved.

After the containers are loaded and locked by the railroad employees, the freight agent of the forwarding station informs the Chief Dispatcher of the Cincinnati Company of the number and destination of containers to be transported. An abstract and settlement record is then prepared by the freight agent, showing the date, point of origin and destination, waybill number, weight of shipments, and by whom the waybill was made. (See accompanying form).(43) Usually this record is made in triplicate, one copy is retained by the forwarding station as the station record, the other two go with the shipments and are handed to the driver. The second copy is kept by the Cincinnati Terminal Company as the receipt and the third is kept by the receiving station. Sometimes this form is made in quadruplicate, because some railroads require a fourth copy as the receipt of the receiving line after the shipment is properly delivered,

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(43) Wilson, G. Lloyd, Coordinated Motor-Rail-Steamship Transportation, Chapter V.

When the containers are turned over to the driver, he checks up the total weight shown on the summary sheet and makes sure that the capacity of the container and tractor have not been exceeded. Then, he signs a receipt for the container and the waybills, and proceeds to the destination station. On arrival at the destination, the driver will be directed to the craneway nearest the freight cars, where the unloading work will be performed by the station forces. If all waybills and containers are duly delivered, the receiving agent fills in the time of arrival in the abstract and returns one copy of abstract to the driver as the service record.

The transfer work can be performed as late as the closing time of the freight station. In case the truck cannot reach the station before closing time, the Chief Dispatcher telephones to the freight agent or night watchman asking the latter to keep the door open where the containers are located. At the same time the Dispatcher also notifies the receiving line, requesting the employees to receive the containers.

Dispatching Method.

The dispatching of tractors and containers is centralized in the hands of a Chief Dispatcher jointly employed by the railroads and the terminal company. Through the company's telephone which is connected with every freight station, he keeps constantly in contact with every driver. In the Dispatcher's office a list of drivers waiting for assignment is provided. Upon the request of the freight agent at the forwarding station, the Dispatcher uses this list in ordering the drivers at the nearest station to proceed to that station. In this way the idle time and empty loading trips of tractor operation are greatly reduced. It is reported by the company that in a 10-hour service day 26 trips between various stations can be made.

The efficiency of the dispatching system can be clearly shown by the following data which give the percentage of loaded mileage and trips against empty mileage and trips in the year 1928.(44)

| | | | |
|---|---|---|---|
| The loaded mileage | 183,134 | miles | 65.66% |
| The empty mileage | 76,632 | „ | 27.34% |
| The empty chassis mileage | 19,259 | „ | 7.00% |
| Total | 279,025 | miles | 100.00% |

| | | |
|---|---|---|
| The fleet made | 69,429 loaded trips | 51.75% |
| | 42,991 empty body trips | 32.00% |
| | 21,800 empty chassis trips | 16.25% |
| Total | 134,220 trips | 100.00% |

### The Advantages of the System

The advantages of the motor service can be classified into two headings, one is the betterment of service and the other the reduction of expenses. Under the first-named class, the expeditious service benefits the shippers as well as the carriers. The average time for every transfer between different stations by trucking movement is only 22 minutes as compared with 24-72 hours under the former ferry car method. Through the concentration of freight into the main stations, destination of freight cars can be made, thus promoting the economical use of the equipment. The use of containers provides the best protection to the shipment, it leaves no chance for pilferage. The tracing of short or over shipments at delivery station is greatly facilitated by careful check on the abstract of waybills when the container is unloaded. In case of any mistake, the forwarding station is notified and the search for the missing shipment can be made within one hour.

Great saving has been effected since the inauguration of this new service. The railroads serving the Cincinnati district in 1919 were planning to construct a universal freight station to take care of the increasing freight traffic. It was estimated that to carry out this plan it would cost the rail carriers from $12,000,000 to $15,000,000.⁽⁴⁵⁾ After the motorization of the terminal operation in Cincinnati, all outlying stations were linked up as one unit by motor trucks, without resorting to the enlargement of existing facilities. However, by contrast the initial costs of these two methods, a tremendous saving to the rail carrier can well be seen. At the beginning of motor service, the railroads erected 69 superstructures to handle freight containers at an initial cost of approximately $125,000 together with the minor changes in the freight platforms at an expense of $25,000, or a total of $150,000. All these expenses amount to only one-hundredth of the investment proposed for the construction of a union freight station. Had the railroads adopted the plan of an union station, the bare interest charges on the investment, exclusive of the maintanance expenses, would be from $600,000 to $750,000 per year.

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(44) I.C.C. Docket 21723, Testimony of B. F. Fitch for the Cincinnati Terminal Company.

Motor operation not only expedites interchange of traffic but also reduces the operation expenses on L.C.L. traffic. Under the ferry car service, the handling cost was $1.71 per ton. The present trucking rates are on an average of $1.10 per ton,⁽⁴⁶⁾ a saving of about sixty cents per ton. The reduction of loss and damage claims is almost unbelievable. Approximately 2,000,000 tons of freight have been handled since the adoption of the trucking service and the company has paid less than five dollars in the loss and damage claims. The elimination of ferry cars relieves about 225 cars for other profitable uses, and at the same time saves the railroads approximately $225 daily in per diem charges. Other savings from the trucking operation have been resulted. About 14% of the platform space can be saved for the handling of L.C.L. traffic by containers and the capacity of the station tracks also have been increased to a certain extent, due to the elimination of trap cars and other switchings

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(45) Ibid, Rocord 2877 and 2889.

(46) Ibid, Record 2900.

# CHAPTER V

## CO-ORDINATED TERMINAL SERVICE: STORE-DOOR DELIVERY

### The Meaning of the Term "Store Door Delivery".

The term "store-door delivery" apparently means different things to different persons. It is sometimes used in its literal sense as referring only to the immediate delivery of inbound freight to the consignee, but the term is used sometimes so as to embrace the pick-up service from the shipper's door as well as delivery to the consignee's. It has been suggested by some writers that the term should be changed to "direct collection and delivery service" in order to avoid ambiguity.(1) However, because of the common usage in this country and for the sake of brevity, the term "store-door delivery" will be used in its broad sense in the following discussion, which refers to the delivery from freight terminals to the premises of the consignee as well as the collection from shipper's door to the freight depots of the railroad.(2)

Store-door delivery service is not a part of rail terminal service which the railroads are obliged to perform. In the decision of the Interstate Commerce Commission the functions of the railroad and the express company were differentiated as:

> "The duty of the railroad in respect to the delivery is different from that of express companies. By custom, usage, and upon ground of impracticability. the old common law obligation of carriers to make personal delivery to the consignee is no longer applied to railroad; it is different, however, with express companies which are, by general custom at least in cities and large towns, obliged to make personal delivery within defined territorial limits."(3)

For this reason the rail carriers must select whether to perform such service or not, and it is beyond the power of the Interstate Commerce Commission to require the carrier to establish store-door service against their will. However, when the service is adopted by the railroads it becomes subject to the jurisdiction of the Commission. By examining the authority conferred by the Interstate Commerce Act, the Commission admitted that its jurisdiction covers the "terminal facilities of every kind used or necessary in the transportation of the person or property." Although motor truck or wagon transfer companies are not ordinarily subject to the Interstate Commerce Act, trucking services performed in connection with the terminal service of a rail common carrier are subject to the jurisdiction of the Commission. "Charges to the public for the truck service ......must be published in tariffs the same as for any other service granted by the carrier as part of its transportation service."(4)

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(1) Fair, Marvin L., "Direct Delivery and Collection of Freight," Ohio Commerce, Jan. 1929. issued by Ohio State University.

(2) Wilson, G. Lloyd, "Co-ordinated Motor-Rail-Steamship Transportation" p. 150.

(3) 52 I. C. C· 719

Railroad May Absorb Drayage Charges.

The absorption of drayage charges in part or in full by the railroads is permissible so far as there is no unjust discrimination to shippers and localities. Under such an arrangement the tariff must show the condition and amount of the charge absorbed.(5) However, the absorption must not promote destructive competition and be inconsistent with the regulation governing the fair return to the railroads.(6) In granting the absorption of drayage, local conditions must be taken into consideration. The Commission has never condemned the practice of store-door delivery and absorption of drayage, but its decision in each case has been necessarily based on the particular facts considered therein.(7)

Invariably, the motive for adopting free delivery service by a railroad, is to meet the competition of rival lines serving the same locality and to equalize the competitive conditions. The Interstate Commerce Commission has observed:

> "Its origin, as a rule is found in the fact that one carrier is unable to locate its depot otherwise than at a long distance from the business portion of a city, which other carriers have succeeded

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(4) 91 I. C. C. 546
(5) 91 I. C. C. 546
(6) 157 I C.C. 277
(7) 157 I.C.C. 278

> in establishing their depots near to or in the business portion of such city. The carrier whose depot is thus located at the greater distance resorts to the expensive method of transporting its traffic and equalizing its terminal facilities.........with those of its competitors in transporting freight to and from that town or city....... Such a service is not a terminal charge upon the shipper, for no separate charge as such is made against him for it; it is a part of the cost of transportation of traffic and to equalize its facilities in receiving and delivering freight under exceptional circumstances and conditions which do not admit of being made with fairness and justice to the carrier and the public in the prosecution of its business in any other manner."(8)

The grant of free drayage at one point and refusal of same to the nearer point do not violate the long and short haul clause. In Mary O. Stone & Thomas Carten V. the Detroit Grand Haven & Milwaukee Railway Company, the railroad maintained free drayage service at Grand Rapids, Michigan, but refused to give the same service at Ionia, Michigan, which was a section included in the line and through which the shipment to Detroit would first pass. The Commission held that such practice violated Section 4 of the Interstate Commerce Act; free drayage at a station has the effect of reducing the rate for long haul below that for a short haul. It is unlawful to quote a smaller charge for a longer distance over the same line in the same direction, the smaller being included within the greater.(9) The verdict of the I.C.C. in this case was reversed by the Supreme Court on the ground that store-door service is a separate service and should not be included in the line-haul service. The railway transportation ends when the goods reach the terminus and are there unloaded, and that anything the company does afterward is a new and distinct service, not embraced in the contract for rail carriage.(10)

Difference Between Store-Door Delivery and Constructive Station Services.

Constructive station service is sometimes called a modified form of store-door delivery, and has long been used by several trunk lines in St. Louis and for a time in the New York terminal district, as discussed previously.(11)

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(8) 3 I.C.C. 628
(9) 3 I.C.C. 613
(10) 167 U.S. 633
(11) See Chapter III on Constructive Station

The difference between these two systems that under the constructive system the responsibility for the shipment between the terminal and shipper's or consignee's store is divided at an imaginary line, beyond that line the rail carrier does not assume any liability; while in the store-door service the rail carrier assumes the full responsibility for shipments delivered from rail terminal to the shipper's or receiver's store until the shipment has been duly received. Moreover, in the former system the railroad pays an allowance through the constructive handling up to the imaginary point, beyond which the shipper or consignee bears the trucking. In the latter system, it has been generally recognized by the shippers and the carriers that all expenses incurred in this service should be borne by the user of the service and the railroad is entitled to be compensated by reasonable and adequate trucking charges for this service.(12)

Equipment.

Store-door delivery was not a development subsequent to the motor vehicles. It was used in Great Britain and Canada long before the motor transportation was known. It is not a new experiment even in this country, because the delivery service by horse-drawn wagons was once used to a limited extent by several railroads since the middle of the last century. However, since the advent of motor vehicles the character of the service has greatly broadened. The motor truck, with greater loading capacity and higher speed, has entered new fields which were beyond the reach of the horse-drawn wagon. In England both wagon and motor trucks are used for cartage services, while in the United States motor vehicles dominate the delivery service. This is largely due to the high labor cost in this country so that labor-saving machinery can be profitable employed. Whatever types of vehicles are used in the service, the underlying principles are practically the same.

Early Experience of Store-Door Service in the United States.

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(12) Report of the Atlantic States Shippers' Advisory Board, ect. 1925, p. 19.

Although the development of store-door service operated by railroads in this country is behind the practice of Great Britain and Canada, the service is not new to railroads. Before the advent of motor vehicles, store-door service performed by horse-drawn wagons had been adopted in the United States.

As far back as 1867, the Philadelphia, Baltimore and Washington Railroad (later a subsidiary line of the Pennsylvania System) first adopted the free store-door service in Baltimore,(13) to meet water competition in handling freight from Boston, New York and Philadelphia. Later in 1883, the Pennsylvania Railroad introduced the same service in Washington as an emergency step to reduce terminal congestion; the Baltimore and Ohio Railroad also established a similar service at both Baltimore and Washington. The service in both localities was confined to the first four classes of L.C.L. freight originating from certain designated territories. Within the free delivery limit, as prescribed in the tariff by the railroads, the station to station rail rates also embrace the drayage. Beyond this limit a drayage of 2 cents per 100 pounds with a minimum charge of 10 cents per package was imposed. The service was performed by the local drayage companies, and the charges were not published in the railroads' tariffs.

In 1911, a Washington confectionary merchant located outside the free delivery limit, protested to the Interstate Commerce Commission alleging that this practice was unduly discriminatory, because the railroads granted free delivery service to merchants located more distantly, but refused to extend the same to him and other merchants in his section. Upon the examination of testimony that the free delivery service was extended to places more distant than the complainant's section, the Commission supported the contension and ordered the practice to be readjusted. Presently, another section in the District of Columbia, near the city of Washington, followed the example just cited and won the suit. Owing to the successive extension of free delivery area, together with the increase of drayage rates by the local drayage companies, the railroads petitioned the Commission to withdraw the storedoor service in Washington in order to avoid the unbearable burden. This was denied by the Commission on the ground that jobbers and retailers of Baltimore and Washington are in direct competition, should the free delivery service be abandoned in Washington and maintained in Baltimore, there would be created an advantage for the Baltimore merchants as against those in Washington. In consequence of this decision the railroads withdrew the store-door service in both cities on September 1, 1913.

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(13) 24 I.C.C. 629
25 I.C.C. 412
27 I.C.C. 347
30 I.C.C. 388

The store-door delivery service was again recommended as the solution to the terminal congestion in the New York port during the Great War. at that time the New York port, the main outlet to the Atlantic Ocean, was taxed to its capacity due to the unusual demand for the war materials and foodstuffs by the European countries. Freight pouring in from all parts of the country was piled at waterfront stations awaiting vessels for transport to Europe. The congestion became so serious that the existing terminal facilities and equipments were inadequate to meet the traffic need.

The situation went from bad to worse after the United States declared war against Germany. In addition to the exporting freight, the transportation facilities had to take care of war materials and other goods to be sent to the Expeditionary Force. It was reported that, in collecting shipments at a certain pier station one drayman had his teams standing in line for two days without being able to obtain shipments. On account of the inclement weather during the part of the blockade the drayman lost two horses.(14)

In seeking a remedy for these conditions, Commissioner J. S. Harlan was appointed by the Director General of Railroads to study the situation.(15) After holding several

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14. Traffic World, December, 1918. p. 1245.
15. Commissioner James S. Harlan's report to the Director General of Rilroads, March 19, 1918.

conferences with all the interests involved, the Commissioner recommended the storedoor plan as an emergency measure. Although his plan was not put into effective owing to strong opposition from the local interests, its method of operation drawn from his comprehensive study deserves mention here.

Under his plan it was proposed that all railroads serving the port of New York should form jointly a drayage organization and share the expenditures in proportion to tonnage handled through the pier stations. A drayage manager was to be appointed by the Director General in taking charge of all the cartage service from the pier stations on the Manhattan side. He was to be empowered to make rules and regulations, schedules and charges for the entire cartage service.

This proposed cartage service may be termed as a compulsory delivery and optional collection service. When freight arrived at the pier stations, instead of sending notices of arrival to the consignees and waiting for their orders, shipments were to be immediately loaded into trucks according to destination and sent to the consignees' places of business. In case the consignees failed to accept their shipments, the goods were to be stored in public warehouses designated by the drayage director at the consignees' risk and expense.

For the outbound freight the trucks were to call at the shippers' places of business on regular schedules upon the request of the shippers. This arrangement was based on the assumption that since the trend of traffic in New York was heavy on inbound freight, prompt removal of the inbound freight from the pier stations would react favorably upon the capacity of the rail carriers to handle the outbound freight expeditiously and thus tend to prevent congestion at the bulkheads. It was estimated that from 30 to 50% more freight could be carried to and from Manhattan Island if the removal by the consignees of their inbound freight from the pier were so regulated.

All trucking services were to be conducted by a drayage director. In carrying out this plan, a drayage company consisting of as many existing trucking companies and teaming organizations of shippers as possible, was to be formed. Any organization joining in the consolidated terminal trucking company was to be duly registered and subject to the supervision of the Drayage Director. No truck was to be allowed to enter the pier stations for the removal of inbound freight unless it was a member of the consolidated company. In performing the delivery services, the responsibility of the rail carriers was to cease when the shipments were loaded into the trucks, and the trucking operator was to assume liability for loss and damage while the freight was in his custody.

This plan was abandoned due to opposition from certain shippers as well as the trucking companies. It was alleged by shippers that this plan deprives them of the right of disposal of freight, hence they had no choice in accepting the delivery of the goods whether they were ready to receive them or not. The opposition of the drayage companies was due to the fear of losing traffic to their business rivals.

## Advantages of Store-Door Delivery Service.

Long experience in Great Britain and Canada has proven that store-door delivery service is a constructive method of improving railroad terminal operation, and there is no reason why the United States might not profit by their experience. In the United States constant improvements have been made in the railroad line-haul services to meet traffic needs. The time appears to be ripe for the railroads to improve their terminal operations, especially when other new transportation agencies have sprung up and threaten the supremacy of the railroad industry. The advantages of this system have been repeatedly discussed by leading authorities,(16) these arguments may be summarized under the following headings:

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(16) See Wilson, G. Lloyd, Articles on "The Co-ordinated Terminal Service" in the Traffic World, 1927, and the "Co-ordinated Motor-Rail-Steamship Transportation" Chapter XIII, by the same author. Johnson, Huebner and Wilson, "Principles of Transportation" Chapter XXXVI, Store-Door Freight Service.

See also Sorrel, L.C., article on Store-Door Service in the Traffic World, 1929.

### 1. The Elimination of Terminal Congestion.

The most important factor in advocating the store-door delivery system is that it tends to relieve railroad terminal congestion. Under the existing method of railroad freight delivery, the platforms at the freight houses are jammed with goods awaiting collection. Station platforms and streets leading to the railroad station are often crowded by the shippers' and consignees' vehicles. Team tracks are overloaded by the trap car service. All these factors tend to increase the difficulties of railroad terminal operation.

Under the store-door service incoming freight can be transferred directly from cars to trucks, and the goods can be delivered directly to the consignees, stores, thus platforms at the freight houses would be released from the necessity for storing incoming shipments awaiting the consignee's call. Fewer trucks are required in making the collection and delivery, because those shipments can be consolidated and loaded into larger capacity trucks by the trucking agents of the railroads. Likewise, terminal switching can be reduced to a minimum, so that the trackage will be open to through traffic movement.

### 2. Using Terminal Facilities More Extensively.

The existing terminal facilities can be used more extensively and can accommodate more traffic without being greatly enlarged. In this connection, the British practice furnishes a good example. The freight stations in London are cleared of freight three times a day because of prompt collection and delivery by cartage service. The American practice differs from the British for shipments are stored in railroad premises on an average of three days; carload freight awaits unloading on an average of two days. It has been pointed out by a leading authority on transportation that the efficient operation of store-door service would eliminate all such defects; freight platforms will be available at least twice a day and the capacity of team tracks will be increased at least four times.(17) In other words, with a smaller number of freight stations, the shipping public can be served equally well.

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(17) Wilson, G. Lloyd, "Co-ordinated Terminal Service," Traffic World, Nov. 12, 1927. p. 1099.

### 3. Relieving the Expensive Station in the Business Section of the City.

It is the opinion of leading experts that the ultimate aim of store-door delivery is to gradually remove the freight stations located in the congested sections of a city to the outskirts, after the service has been used to a considerable extent and performed efficiently.(18) In this way, not only the railroad can save a tremendous sum in the investment by getting rid of the high priced land in the business sections of the city, but the general public in that locality will be better served by releasing this space for other commercial and industrial uses. As an illustration, the New York terminal situation may again be mentioned here.(19) Since about 37% of the waterfront space is occupied by the railroads serving that district as pier stations, there is not sufficient space for the terminal operation of ocean and coastwise steamship lines. In is suggested by the Port Authority of New York that in the interest of the future development of the port, the reapportionment of waterfront space for various industries is necessary. Through the store-door delivery method many railroad pier stations can be discontinued, thus releasing those spaces for Trans-Atlantic and coastwise steamship lines.

It is always a heavy burden for the rail carrier to maintain expensive terminals in large cities. As descripted by G. R. Chatburn:

> "In large cities a considerable percentage of land in the businese section is occupied by the railroads for track, road and station purposes. This land is worth from $10 to $50 per square foot, and if freight cars stand upon it intermittently for the receipt and discharge of L.C.L. freight, it is not earning continuously but, on the other hand, it is spending every minute in interest, taxes and maintenance."(20)

The necessity of maintaining freight stations in the center of a city is generally attributed to the limited radius of haulage under the old form of drayage. Owing to their slow and limited capacity, the horse-drawn wagons could transport freight of smaller volume for a comparatively shorter distance than is possible by motor vehicles. Therefore, the railroad was compelled to locate its freight station in the heart of a city in order to serve the shipping public of every section on an equal footing. Since the advent of motor propelled vehicles this situation no longer exists; the increase in the length of haul and the larger loading capacity of motor truck brings the outlying stations within the reach of shippers and consignees.

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(18) The round table discussion on Transportation under the direction of Emory R. Johnson, American Economic Review, March 1924. supplement. p. 148.

(19) See Chapter IV.

(20) Chatburn, G. R., Highway and Highway Transportation, p. 177.

### 4. Eliminating Loss and Damage to Freight.

By store-door delivery service numerous unnecessary handlings and the time of detention in the freight stations can be greatly reduced, hence, the chance for pilferage and damage to freight is also narrowed to considerable extent. This is especially true with L.C.L. freight, for the railroads hold themselves out to perform the loading and unloading work at the freight station. It was stated by the Interstate Commerce Commission that 32 per cent of the loss and damage claims paid by the railroads in this country were on L.C.L. freight, while in Canada, where the store door service has been used for 70 years, the figure for the same account was only 22 per cent.(21)

### 5. Savings in Terminal Costs.

From the above mentioned conditions, it naturally follows that terminal costs could be reduced to a considerable extent: through less handling, which means saving in the direct labor cost; using existing terminal facilities more extensively; or removing the expensive stations to the outskirts of the cities, which means the reduction of overhead expenses, and freight cars released from trap car service can be used in the profitable line-haul services. This accords a solution to the long puzzled terminal problem.

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(21) Horer, F. C., "The Application of Motor Transport to the Movement of Freight and Passengers", p. 16.

## Advantages to Shippers.

The store-door delivery service also benefits shippers and consignees by offering more expeditious movement and lower trucking rates. Recently, many railroads have provided overnight service up to 300 miles distance.(22) The shipment is delivered to the consignee's store in the early morning, so early that sometimes the driver arrives before the warehouse is open. This meets the modern business requirements, by keeping the inventory as low as possible and reinforcing the stock by frequent small orders, the dead capital can be reduced to a minimum. In the efficient operation of storedoor service, a consignee may have this shipments delivered as soon as the train reached the destination.

Under the older system, the trucking service at the terminal was cumber some and expensive. Supposing a load of freight were destinated to ten different merchants, all located within a few blocks of each other. Collections are made by individual truckmen, who must be standing in line at freight station until the truck ahead is loaded. This causes not only terminal and street congestion, but also a tremendous waste in time due to the necessity of waiting for loading. It is estimated that at the terminal in New York such delay costs the shipper as much as $5 per hour. These delays have reached a point where they are said to cause an annual loss to merchants of New York of approximately $100,000,000.(23) Trucking costs are unduly high because the loading capacities of the trucks are usually only partially used.

Under the store-door system one truck, operated by the railroad or its trucking agent, would carry all shipments to those consignees. This heavier loading will effect great economy in trucking operation and the reduction of number of trucks jammed in the terminal area will relieve terminal and street congestion. Shippers and consignees will be benefited, therefore, by expeditious service and cheaper trucking cost.

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(22) In the Southwestern Territory many railroads conduct complete service. See Chapter VI.

(23) Snow, Franklin., Speeding the Freight, Commerce and Finance, Vol. 14, No. 21, May 27, 1925.

## Obstacles to the Store-Door Delivery.

After the withdrawal of store-door service at both Washington and Baltimore, the question of readopting this service has been repeatedly discussed during the last two decades. It is the opinion of leading authorities that the establishment of a comprehensive system of store-door service would be a progressive step towards the perfection of the art of transportation. However, progress in the direction of establishing the service was slow until the last two or three years. If it is a progressive step, why have not the railroads adopted it earlier? What are the obstacles? To answer these questions, the attitude of both the railroads and the shippers toward this service must be analyzed. The shippers' attitutde may be considered first.

In the first place, shippers were not fully aware of the necessity of this service until the recent development in motor truck transportation. For instance, in the meeting of the Atlantic States Shippers' Advisory Board, in 1925, questionaires were sent to request the opinion of its members regarding store-door service and only a few returns were received. Mr. W. J. L. Banham, then general Chairman of the Committee, remarked on this occasion that "it is largely a question of education, some of the shippers know about the principles of this service, some are not so well acquainted with them."(24)

In another occasion, the Commission in commenting upon this service, stated: "The lack of interest is said to be due to the fact that the service has never been given a trial and the shippers are loath to enter into a new arrangement."(25)

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(24) Proceedings of the Atlantic States Shippers' Advisory Board, oct. 1925, p. 32.

(25) 156 I. C. C. 231.

Furhtermore, the attitude of the shippers towards the store-door service operated by railroads is by no means unanimous. Looking upon the problem from different angles, some shippers consider it as a necessary step to the complete transportation, while others look upon it indifferently. Generally speaking, small occasional shippers represent the former group, while the large business houses constitute the latter

Rail trap car service has long been considered as the door-to-door service by rail. It applies not only to carload traffic but, in most cases, to L.C.L. shipments also. For those large commercial and industrial houses equipped with private sidings, the railroads send cars at their own expense to the warehouses for collection and delivery of shipments, provided the minimum weight is reached. In reality, those shippers have long enjoyed the privilege of free trap car service as a kind of door-to-door service. Recent developments have made this situation even more favorable to large shippers, for many railroads have replaced the box cars by trucks and trailers under the same rules as those governing trap car service.(26) It would make little different to many of those shippers whether or not store-door service is performed.

Besides the free trap car service many industrial concerns have arrangements with local trucking companies to take care of their incoming and outgoing shipments. Under such arrangement the concerns often file with the railroad station agents standing instructions to have their shipments delivered to specified trucking companies, which make daily or more frequent calls at the railroad freight stations. The trucking rates may be fixed either at a single lump sum per month or at a definite sum per hundred-weight, in either case the rate is cheaper than that for single trip. In other instances, the railroad may also make arrangements with local large truckmen to perform the delivery service.(27) When no orders are received from the consignee in regard to the disposal of the incoming shipments, the shipments are turned over to a recognized transfer company. It is the latter which takes the chance of seeking the patronage of those concerns for trucking service. It is said that under this practice little difficulty has been encountered by the transfer company in making delivery of those shipments.(28)

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(26) See Truck in Lieu of Trap Car Service, Chapter IV.

[27]. Williams, Harry G., "Why Not Store Door Delivery?, Railway Age, May 24, 1930. p. 1287.

The above practices have functioned so successfully that certain shippers are loath to see them changed and go so far as to oppose the adoption of store-door service. For instance, in the regular meeting of the Chicago Shippers' Conference Association in 1926, a resolution opposing the store-door delivery operated by railroads in Chicago was passed by its members on the ground that since the existing method of handling L.C.L. freight functions efficiently and embraces all the advantages of the proposed store-door delivery, any change would not especially benefit the shipping public.(29) The weakness of the above system lies in that the trucking company extends its service only to large shippers and consignees and makes no attempt to handle the delivery of miscellaneous shipments of small dealers.(30) This practice also results in the unnecessary duplication of trucking service, for every shipper employs his own agent. For instance, Company A holds an order of John Smith at First Street, while Company B holds another order of another consignee on the same street.

Certain large shippers believe that they can perform trucking services for themselves more economically and efficiently than the railroads can do these services. Many large business houses and a number of smaller concerns own a number of trucks to supply the fast delivery service to their customers, the same trucks can be used on the return trips to pick-up or deliver shipments to and from railroad stations at only a small additional expense. Even if the store-door service is offered by the railroads, they can hardly afford to relinquish this equipment.

The case of the small shippers is somewhat different. Their volume of traffic does not warrant the performance of the trucking service by themselves, or the installation of private sidings. They can get complete transportation service only through the railway express agency or local truckmen, but in either case the rates are high due to the high rate or the high minimum charges. Hence the direct delivery service is necessary to put them on an equal level with large shippers.

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(28) Ibid.

(29) Anonymous, "Oppose Store Door Delivery", Railway Age, April 17, 1926. p. 1070.

(30) Loree, L.F., "Railroad Freight Transportation", p. 320.

The store door service to certain shippers is of little use. Since some of the L.C.L. shipments are customarily sold after the arrival at the terminal, some consignees use this period of free time as a time for business solicitation. This practice has been proven to be the most economical method in retailing, because the shipment can be stored in the railroad station without any charge within the free time. As soon as the transactions are made the shipments are delivered to the buyers' places of business.

The other side of this question is the attitude of the rail carriers.

The fear of destroying the existing competitive situation among railroads may hamper the development of store-door service to a certain extent. Every line has its own stronghold in a certain city or cities where its terminal facilities are located in an advantageous position and connected by private sidings with large commercial and industrial houses. The trucking service might upset the well balanced competitive situation; one railroad may introduce the trucking service invading into the territory of another line, but the retaliation of the other would have the same effect to the first, then no one would get any benefit. This apprehension was frankly expressed when in 1924, the railroad executives held a meeting in New York to consider the desirability of the adoption of store-door service in this country. One resolution urged that the store-door service should be organized in such a way as not to alter the existing competitive situation.(31)

The terminal or switching railroads are strongly opposing the store-door service, because it has a detrimental effect upon their businesses. In case the trucking service is adopted, shipments can be handled at outlying stations of the city without resorting to switching service, and the interchange of freight by cars among railroads is greatly reduced. The New York terminal situation serves as an illustration. When the railroads serving this port introduced the constructive station system, trucks were placed alongside the rail cars on the Jersey side of the harbor. These vehicles picked up or delivered freight which would otherwise have been handled by the terminal lines. As one witness testified "the constructive system affected the traffic most seriously; most of our patrons we regular served have left us".(32) The truck took away the freight which was most profitable and left the bulky or unprofitable freight.

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(31) Anonymous, "Results of Store-Door Delivery in England Analyzed", Railway Age, Oct. 17, 1925. p. 701.

Many difficult problems present themselves when-railroads install store-door service. There is a tendency also for shippers to expect the railroads to absorb at least a part of trucking charges, despite the numerous previous statements that the drayage charges should be borne by the beneficiaries.(33) The operating costs of the service are difficult to reconcile with the trucking charges.(34) Usually, the operating costs are higher in the winter season than in other months of the year, due to bad weather conditions. There is always a possibility that the independent trucking concerns may shift the burden to the railroads during this period of high costs.

Whether the service should be rendered on compulsory or optional basis is difficult to decide. Should the service be made compulsory, it will deprive shippers of the period of free storage at the railroad freight house which they now enjoy in the case of incoming traffic. On the other hand, if it is optional the railroads will get only that traffic which is unprofitable or difficult to handle, while the shippers or independent trucking concerns will truck the more attractive shipments, thus leaving a heavy burden on the railroads to maintain the service.

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32. I.C.C. Docket 19715, Testimony of the New York Dock Railway.

33. Slater, J.E., Motor Transportation in the United States, American Economic Review, March 1927, Supplement, p. 153.

34. I.C.C. Docket 19715, Record 374.

Many railroad executives believe that it would be impossible for them to maintain trucking rates, unless the truck companies are also regulated by governmental authority. Under the present condition, many trucking companies do not maintain tariffs. Even in cases where they publish tariffs the rates are usually paper rates and they may change them overnight, or in some cases, the tariff rates are not observed at all.(35) It is possible for the truckmen to underbid the railroads by cutting one or two cents below the fixed rates for the same service. Furthermore, under the existing regulation, the railroads are prohibited from any undue discrimination against persons, places or traffic. All shipments, excepting some commodities excluded from the store-door service, tendered by the shippers must be handled whether they yield profit or not. The trucking companies, on the other hand, may refuse to handle certain kinds of traffic which they considered to be unattractive. There is danger that the truckmen may take the cream of traffic and leave the relatively unattractive traffic to the railroad store-door service, which would constitute an unbearable burden to the railroads.(36) This is one of the important reasons why so many railroads prefer to offer complete transportation service through subsidiary companies.

Other Factors.

The develepment of the store-door service may also be retarded by the influence of other transporting agencies. It has long been a common practice in this country for forwarding companies to consolidate many individual L.C.L. lots into carload shipments, and distribute them at destination. This practice not only reduces the transportation costs, but also furnishes direct delivery to shippers and consignees. The railway express service is in fact a store-door delivery service, picking-up and delivering at both ends. The only reason the express does not absorb all l.c.l. traffic is due to its high rates. It is suggested that the development of the store-door service may be retarded through the influence of the express company.(37) Many express companies were formed by men who were also high officials of the railroads over which the companies operated. Even after the ownership of the majority of the stocks in the express company had passed from the hands of the railroad officials, they maintained an interest in the express companies. The fear of competition may lead the directors to hinder such development, but it is hard to say to what extent the influence has been exerted. Likewise, opposition may be encountered on the part of existing independent trucking companies whose businesses would be seriously affected by the adoption of store-door delivery.

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(35) Peterson, Bernard, "Store-Door Service", Boston Evening Transcript, April 11, 1931.

(36) I.C.C. Docket 19715, Record 374.

Revival of Store-Door Service.

In the last five years the store-door delivery service has again attracted the attention of railroad executives. It was pointed out by the Interstate Commerce Commission that:

> "Store-door delivery is today raceiving the earnest consideration of railroad executives and shippers' representatives, as well as ours. Store-door delivery would mean quicker and better service to the shipper with a great saving of time, elimination of terminal congestion, consolidation of freight into fewer cars, and reduction in use of station and cars for storage."(38)

The year 1931 marks the steady development of the store-door delivery service by leading railroads throughout the country. The railroads in the Northwest inaugurated optional delivery service at additional charges, while the Southwestern lines have provided for free delivery service in connection with traffic moving certain distances. Meanwhile, in New York City all railroads serving that district propose to perform store-door service commencing December 17, 1932.

The chief reason for the adoption of store-door service as a part of the railroads' freight services is the seriousness of motor competition. Truck rates usually include complete transportation services, i.e. the collection of shipments from the shippers' store-doors and the delivery of the goods to the consignees' places of business. This is the strong weapon of the trucking service and means a saving of drayage to the shippers or consignees. Facing this situation, many railroads admit that the store-door service is an important measure in regaining the traffic which has been lost to highway competitors. Testifying before the Interstate Commerce Commission in the Eastern Consolidation case, M. W. Clement, Vice President of the Pennsylvania Railroad, stated, "rail carriers are going to have to meet the situation as to the truck competition. Truck competition gives complete delivery from the factory door to the store-door. The railways to meet that competition, are going to have to do likewise. This is going to involve eventual store-door delivery".

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(37) Anonymous, "Store-Door Service", Harvard Business Review, April 1929. p. 342.

(38) 140 I.C.C. 685.

(39) Editorial, Railway Age, Feb. 6, 1932. p. 231.

The Southwestern Lines Store-Door Service.

In order of importance, the store-door service of the railroads in Southwestern lines territory should take first place. It is the most extensive store-door service that ever has been adopted in this country. Under the tariff arrangement, more than ninety railroads participate in this plan, including: the Missouri Pacific, Cotton Belt, Island, Sante Fe, Southern Pacific, Illinois Central, Katy, Kansas City Southern, and others. About 3,000 stations listed in the tariff cover the main trading centers in the states of Kansas, Arkansas, Oklahoma, Louisiana, Texas, the southen and eastern portions of Missouri, and the eastern sections of Colorado and New Mexico.(40)

Purpose of This Service.

The main purpose of this service is to meet motor truck competition in the Southwestern Territory. In an explanatory communication filed with the Interstate Commerce Commission, the operating lines stated that this service is a defensive means toward retaining and regaining the short haul traffic, to the railroads. Generally speaking, the strong weapon of motor transportation is its store-door service, to meet this competition, the railroads find it necessary to absorb the drayage charges out of substantially the present rates for the short haul traffic. As one railroad officer explains it, "the tariff is published on the assumption that the truck carriers take the short haul traffic away from the railroad up to a distance of approximately 300 miles, within such area it is necessary for railroad to maintain at least equal service as that of the trucking company, so that we can compete on an even term. Since all trucking rates include door-to-door service, the rail carriers have to adopt a kind of new scale which provides free collection and delivery service for certain classes of goods within or up to a haul of 300 miles."(41)

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(40) Plimpton, R.E., Chicago Journal of Commerce, Dec. 7, 11, and 13, 1931.

### Service.

The service is optional and limited to that L.C.L. traffic, on which the freight charges are assessed on basis of class or commodity rates in either Western or Southern Classification, or combined rates where one of the factors is governed by the Western classifications. Except for a few lines which perform the trucking service through their own subsidiary companies, the rail carriers have taken advantage of the existing trucking concerns. There are about 3,000 trucking companies, acting as trucking agents for the railroads. L.C.L. shipments intended for outbound movement are collected by the trucking companies at the shippers' store-doors and inbound freight is delivered to the consignees. The area in which the service is offered, is confined to the limits of cities or towns served by the carriers' freight stations. In case the stations are not located within the cities, or towns, the service is limited to those points within the radius of a specified distance from the carriers' stations.

### Rates.

Generally speaking, free delivery and collection services are extended to certain classes of freight when they move within or up to a certain distance, otherwise the drayage charges are borne by the shippers or consignees. Without going into minor details, the drayage charges are determined on the following scales:

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(41) Letter from M.A. Mackenzie, Vice President, The Chicago, Rock Island and Pacific Railroad, Sept. 16, 1931.

Scale one is applicable to those goods on which the freight rates are governed by Western Classification.(42)

Scale One

Class Rate

| First Class | Second Class | Third Class | Fourth Class |
|---|---|---|---|
| 48 cts. per cwt. | 41 cts. per cwt. | 34 cts. per cwt. | 26 cts. per cwt. |

When the freight rates are based on the commodity or on class rates governed by exceptions to the Western Classification, they come under the Scale 2 which is as follows:

Scale II.

| First Class | Second Class | Third Class | Fourth Class |
|---|---|---|---|
| 38 cts. per cwt. | 32 cts. per cwt. | 27 cts. per cwt. | 21 cts. per cwt. |

When freight rates are equal to or higher than the standard, the store-door service is rendered at the rail carriers' expense. On the other hand, if the rates are lower than the fixed figures, the charges for pick-up or delivery services are equal to the difference between the applicable class or commodity rates and the rates set in the scales, but in no case do the trucking charges exceed 10 cents per 100 pounds. An illustration will make this clearer. Suppose the first class rate on a certain shipment between two points is 40 cents per cwt; the difference between the class rate and the rate set in the scale I will be the charge for collection or delivery, i.e. 8 cents per cwt. In case the difference will be 12 cents, the charge will not be more than 10 cents per cwt.

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(42) I.C.C. No. 2318, Southwestern Lines' Tariff No. 88, Issued Aug. 19, 1931, Effective Oct. 1, 1931.

For the benefit of shippers who have their own trucks or are served trucking contractors, an allowance system is used to encourage the use of the store-door service, but it is limited to outgoing traffic only. Where the shippers deliver their own shipments to the freight stations for forwarding, the station agents issue certificate to the shippers, identifying the shipments as entitled to free collection service; the shippers are entitled to an allowance of 5 cents per cwt. to reimburse them for the drayage to the stations. At the end of each month, itemized statements are submitted by the shippers to the railroad freight claim departments showing the total payments the railroads owe them. If correct, the drayage refund claims are paid within thirty days.

No allowance is made to a consignee at destination when his shipment is hauled by his own trucks from station to his warehouse. The omission is justifiable in view of promoting economical and efficient terminal operation. As one railroad officer explains it, "if we were compelled to hold all freight at station without certainty as to whether the shipper would call for it and request an allowance, our station expense would be greatly increased".(43)

When delivery service is desired, either the consignor or the consignee notifies the railroad agent. In the former case, proper indication should be made on the shipping order and the shipment billed on a straight bill of lading instead of an order bill of lading to expedite the terminal handling at destination. In the latter case, the consignee may file with the railroad agent written standing instruction covering delivery of all shipments, regardless of origin, or covering only those shipments on which the expenses of delivery service are absorbed out of tariff rates. For shipments which should be handled by order bills of lading, the store-door tariff provides for a C.O.D. (collection on delivery) service at additional charges. Under this arrangement the sum collected from the consignee is remitted to shipper according to the instruction shown on the bill of lading or shipping order. The charges vary with the amounts collected as follows:(44)

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(43) Plimpton, R. E., Store Door Service, Chicago Journal of Commerce, Dec. 11, 1931.

| When the amount collected is | Charges for collecting and remitting will be: |
|---|---|
| Not over $ 5 | $0.30 |
| ,, $ 5 not over $ 10 | $0.33 |
| ,, $ 10 ,, ,, $ 20 | $0.35 |
| ,, $ 20 ,, ,, $ 30 | $0.37 |
| ,, $ 30 ,, ,, $ 40 | $0.40 |
| ,, $ 40 ,, ,, $ 50 | $0.43 |
| ,, $ 50 ,, ,, $ 60 | $0.45 |
| ,, $ 60 ,, ,, $ 75 | $0.50 |
| ,, $ 75 ,, ,, $1000 | $0.55 |
| ,, $ 100 ,, ,, $ 150 | $0.70 |
| ,, $ 150 ,, ,, $ 200 | $0.85 |
| ,, $ 200 ,, ,, $ 250 | $1.00 |
| ,, $ 250 ,, ,, $ 300 | $1.15 |
| ,, $ 300 ,, ,, $ 350 | $1.30 |
| ,, $ 350 ,, ,, $ 400 | $1.45 |
| ,, $ 400 ,, ,, $ 450 | $1.60 |
| ,, $ 450 ,, ,, $ 500 | $1.75 |
| ,, $ 500 ,, ,, $ 550 | $1.90 |
| ,, $ 550 ,, ,, $ 600 | $2.05 |
| ,, $ 600 ,, ,, $ 650 | $2.20 |
| ,, $ 650 ,, ,, $ 700 | $2.35 |
| ,, $ 700 ,, ,, $ 750 | $2.50 |
| ,, $ 750 ,, ,, $ 800 | $2.65 |
| ,, $ 800 ,, ,, $ 850 | $2.80 |
| ,, $ 850 ,, ,, $ 900 | $2.95 |
| ,, $ 900 ,, ,, $ 950 | $3.10 |
| ,, $ 950 ,, ,, $1000 | $3.25 |
| ,, $1000 at rate of $3.25 per 1,000 | |

Freight Excluded From the Store-Door Service.

Certain articles are excluded from this service due to their special nature or excessive dimensions.(45) For instance, in the first are cotton, cotton linters or regins, dynamite or other high explosions, live stock, articles on which special taxes or license fees are required for the transportation over public streets, and special articles.

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(44) Southwestern Lines' Tariff No. 88, I.C.C. No. 2318.

(45) Ibid.

The latter group includes articles with the following dimentions:

1. Articles in one piece or package in excess of 22 feet in length.
2. Articles in one piece or package in excess of 14 feet in length which is more than 6 feet in width and 6 feet in height, and
3. Plate glass in packages in excess of 4 feet in width and 9 feet in length.

Perishable goods are handled in refrigerator trucks and no additional charge is imposed.

Store-Door Service in Midwest Territory.

In the Midwest several western trunk lines have performed store-door service along their lines since May, 1931. Among these roads are the Chicago & Northwestern; the Great Western; Soo Lines; Milwaukee; Burlington; Rock Island; and Illinois Central Railroads. The service has been extended rapidly to include almost every important station on each line. For instance, the C. & M. Railroad est ablished the service originally at 83 points in May, 1931. Shortly afterward the service was extended to 125 additional points. Similar extension has taken place on other lines(46)

Although the period of experimentation has not been sufficiently long to formulate definite conclusions, nevertheless, the outstanding features are worthy of mention for comparison with other systems in Eastern and Southwestern Territories. Under this system the store-door service is offered at certain designated points and limited to L.C.L. traffic. The service is performed by established trucking companies, under contract with railroads. The railroads assume full liability for the shipments so handled. In order to protect the railroads from any burden of liability, blanket insurance policies covering all loss and damage to freight through the store-door service are carried by all railroads. It is stipulated in the trucking contracts that the trucking agents shall pay 1¾% of their respective monthly compensation to the railroads to cover the insurance premiums. At the end of each month, every trucking agent submits a statement showing the amount of drayage charge due him within that month, upon which the railroad deducts 1¾% for insurance protection.

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(46) Traffic World. Vol. XLVII. No. 21, p. 1265. May 23, 1931.

### Rate Arrangements.

The rates for store-door services vary according to local conditions. Usually, the existing trucking rates in that locality set the standard.(47) The minimum charge for single shipments also varies in different localities according to the volume of traffic. The pick-up and delivery charges are made separately. Unless the shippers have prepaid the delivery charges, the pick-up charges are collected from the shippers and the delivery charges from the consignees.

The collection and delivery services are separate and optional. It is not necessary for the shipper to use collection service at the originating point in order to have delivery service at the destination. On the contrary, the shipper may send shipment by his own truck or trucking contractor at the originating station and order the shipment to be delivered to the consignee at the destination. According to the tariffs, the charge for the pick-up will be paid by the shipper while that for delivery is payable by the consignee, unless payment or special arrangement was made.

The railroads have adopted a specific rule in regard to the delivery service, which provides that where the shipments are once tendered for delivery, and delivery, cannot be accomplished through no fault of the carrier, no further effort will be made to effect delivery.

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(47) C. N. W. R.R. Tariff, C. & N. W. G. F. D. 16869-A.

or is any allowance for the drayage made by the carrier, In case a second or subsequent tender of delivery is requested, additional charges are impose on the consignee.

Certain articles are excluded from the store-door service either because of the peculiar qualities of the goods, which render them unfit for the service, or because of special sizes of the shipments which prevent trucks from transporting them efficiently. For example, the tariff of the Chicago and Northwestern Railway provides that live stock, dynamite, other high explosive goods, and goods which may affect the condition of other shipments, goods of dangerous character liable to imperil life, or goods of injurious nature are not accepted by the carrier. Shipments over 14 feet in length, 6 feet in width or 6 feet in height, or over 10.000 pounds apiece are excluded, unless special arrangement has been made. Shipments subject to order bills of lading are not delivered to the consignees unless the proper negotiable bills have been duly surrendered to the station agents at destination.

### Store-Door Service in the New York Port.

The South Brooklyn Railway Practice.—Several attempts have been made to restore the direct delivery service by the railroads serving the New York, port, since the withdrawal of the constructive station system ordered by the Interstate Commerce Commission in 1929, but nothing has materialized owing to one reason or another which hampers its early realization. The only exception is the South Brooklyn Railway practice which has been proven succesful. The South Brooklyn Railway Company, a subsidiary company of the Brooklyn Manhattan Transit Corporation, inaugurated the store-door delivery service by means of tractors and trailers in the borough of Brooklyn and New York City under a tariff which became effective November 27, 1930.(48) In performing the trucking service the railway does not enter into direct operation but contracts with a leading trucking company, the Horstmann Trucking Corporation, as its agent. The latter furnishes all the necessary equipment and personnel.

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(48) South Brooklyn Company Tariff, I. C. C. 101.

The store-door service, which is restricted to carload traffic, facilitates freight movement by co-ordinating the services of trunk line railroads, terminal railways, and the motor trucks. As a supplement to the existing switching service in Brooklyn performed by the railway for over twenty-five years, the new service links up the rail terminal with shippers' stores by tractors and trailers, thereby benefiting shippers and consignees whose plants are not located along a trolley car line or the location of their plants does not permit the introduction of a freight siding.(49)

Arrangements have been made with all trunk lines entering into the New York harbor for the interchange of both outbound and inbound freight. The trunk line railroads move inbound freight by freight cars to the Eastern Terminal in New York Harbor. There the freight is transferred by car float to Brooklyn and delivered to the interchange yard of the South Brooklyn Railway. When receiving the shipments from the trunk lines, the South Brooklyn Railway notifies each consignee and asks when and where the shipment is to be delivered. It is then loaded from cars to trailers and delivered to the point designated by the consignee. The trailers are left at the consignees' store for unloading. The operation is simply reversed in case of outbound freight. Upon the request of the shipper the railway sends certain number of trailers to his store for loading of freight. As soon as loaded the trailers are hauled by tractors to the terminal where the freight is transferred to freight cars and switched to the proper trunk line for road-haul.

The South Brooklyn Railway, acting as the agent of shippers or consignees, assumes full responsibility for any loss or damage to the freight. The railway's responsibility begins as soon as the shipments are loaded into the trailer and ceases when they are unloaded. The transferring work from trailers to freight cars is performed by the railway, and the cost of transfer is absorbed in the trucking rates.

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(49) B-M-T Monthly, Vol. XV. No. 12, Dec. 1930, A magazine published by the Brooklyn-Manhattan Transit System.

The service has proved to be efficient and economical to consignees and shippers. "It grows rapidly and is still growing, at the outset of this service the railway served only one regular concern, now it serves more than 15 large concerns and handles an average of 100 carloads of freight monthly".(50)

The trucking rates, ranging from 5 cents to 20 cents per 100 pounds, based on the classification of freight as prescribed in the Official Freight Classification, are assessed, regardless of the length of truck haul between the terminal and the store door. In other words, the higher the classification, the higher are the trucking rates. The following table shows the rates for different classes of goods.(51)

Trucking Rates, in Cents per 100 Pounds

| Official Classification | 110% of First Class | First Class | Second Class | Third Class | Fourth Class | Fifth Class | Sixth Class | R 25 Class | R 26 Class |
|---|---|---|---|---|---|---|---|---|---|
| Trucking Rates | 20% | 18% | 15½% | 12% | 9% | 6½% | 5% | 13% | 9½% |

Another plan for adoption of store-door delivery service in the New York District has long been considered by the railroads serving this port city, especially since the suspension of inland and constructive station service in 1929. To carry out the plan, an organization, The Traffic Association, was formed consisting of traffic managers of every railroad in that district. The service is announced to become effective December 17, 1932. It is confind to freight charged at carload rates, also freight in lot of 30,000 pounds or more, not having a carload rating. The service is optional and additional charges are provided.

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(50) Letter from W. S. Wells, Freight Traffic Manager, South Brooklyn Railway, dated Aug. 3, 1931.

(51) South Brooklyn Railway Company Tariff, I.C.C. 101.

New York district is divided for store-door delivery into five zones; namely, Manhattan, Brooklyn, Bronx, Queens, and certain municipalities in the state of New Jersey. With certain exceptions, the tentative rates proposed for store-door service within each zone are as follows:(52)

When the carload minimum weight (in pounds) in the Official Classification is:

| 36,000 and over | 30,000 to 35,999 | 24,000 to 29,999 | 20,000 to 23,999 | 18,000 to 19,999 | 14,000 to 17,999 | 10,000 to 13,999 |
|---|---|---|---|---|---|---|
| 6% per cwt. | 7% per cwt. | 10% per cwt. | 14% per cwt. | 16% per cwt. | 18% per cwt. | 20% per cwt. |

The main factor for eliminating the direct delivery of L.C.L. freight is the lack of parking space in the congested sections of New York city. The difficulty of finding a parking place in that area was described by W. M. Chandler, the Chairman of the New York Merchants' Association, before the Interstate Commerce Commission is that: "In the congested sections of New York City there are very few buildings having facilities to receive freight at the store-door. The truckman may drive around two or three times to find a place to park without success. It is impossible for him to load or unload on the sidewalk during the daytime. There is no use in talking about moving L.C.L. freight until there are facilities to take care of it."(53)

The difference in handling these two classes of shipments lies in the fact that most of the L.C.L. shipments are for immediate use and they have to be delivered to the place of business where the shipper seldom maintains storage, while the C.L. shipments are usually stored at warehouses in lower Manhattan and are not hauled to the congested sections of the city.

### Important Issues Confronting the Store-Door Service.

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(52) W. S. Curlett's I.C.C. No. A-385 P.S.C.-No. A-51

(53) I.C.C. Docket 19715, Record 2494.

### 1. Who Shall Perform the Service?

It is simply a matter of policy whether the store-door delivery service should be performed by contract trucking agents or by the railroads themselves.(54) Under the English practice, the railroads operate the Cartage services which are considered as parts of the railroad service. The railroads, moreover, maintain their cartage organizations directly under their traffic departments. Up until 1929, English railroads quoted two kinds of rates, first station-to-station rates, and second, collection and delivery rates. Since 1929, all rates have been station-to-station rates and delivery charges are quoted separately from the charges for the rail haul. Under the Canadian practice, while cartage is not considered a railway service, the railways may, of their own accord, arrange with cartage companies for the performance of the service. Trucking rate schedules are published in the rate tariffs.

Whether the American railroads shall follow the British or the Canadian system is still an unsettled question. However, some railroad executives are of the opinion that, under present conditions, when the legal status of interstate trucking carries have not been decided, it is advisable for railroads to perform the service through contracting agents rather than by direct operation.

Another moot question is whether each railroad should have its own trucking agency, or whether all railroads serving the same locality should have one organized trucking agency. In answer to this the St. Louis practice appears to offer the best answer.(55) Through the one-transfer plan not only can the expenses be reduced to minimum but the service is also greatly expedited. This factor should not be overlooked if the railroads attempt to use the store-door service. In case every line maintains its own trucking agency and the volume of traffic is diffused into many shares, the inevitable results will be wasteful duplication and higher unit trucking costs.

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(54) See Wilson, G. L. Loyd "Co-ordinated Motor-Rail-Steamship Transportation," Chapter XIII.

(55) See Chapter III, the Advantage of One-transfer Plan.

Closely related to the one-transfer plan, the universal inland station system is advocated by some experts,(56) in order to achieve the full economy of the trucking operation. Under this method every city is divided into a number of zones according to the volume of traffic. In each zone a modern inland station with adequate equipment is proposed to be established to concentrate all outgoing and incoming traffic, so that full truck loads and the longest possible haul can be assured. It is believed that without this arrangement full economy can hardly be obtained, because even where one railroad may get enough traffic in one direction, either outbound or inbound traffic, the question of return trip would yet remain to be solved.

2. Using Railway Express Agency as the Trucking Agent.

In the opinion of some railroad executives, the Railway Express Agency Inc., with its nation-wide organization and long experience in trucking operation, is the appropriated agency to be entrusted to perform the trucking service for the railroads. This idea was conceived by the I.C.C. in the early days, in the case of the Adams Express Company, the Commission said:

> "The express company can expand by the utilization of its organization into a still more useful agency than it is today by providing a terminal service on freight shipments, making a rate from the house to house, thus utilizing their wagon service and the freight service of the railroads under published tariffs. No reason can be given why this country should not enjoy the kind of service England has, rail service plus local delivery upon L.C.L. traffic. Furthermore, there be effected a combination of freight and express service which would give a lower rate than the express rate and make faster time than the freight service. Here are fields of activity which are not now cultivated and in which the express carrier may find room for the play of their constructive facilities after they have more perfectly developed, systematized, and synchronized their present functions as quick and safe carrier of small parcels."(57)

The same opinion was expressed in the meeting of the Motor Transport Division of the American Railway Association at Toronto in 1929, that the railway express agency might expand its facilities in the direction of motor trucks for the transportation of freight on behalf of the railroads. In view of the fact that this agency is already one of the largest operators of motor trucks in the country, it is quite possible that trucking service for the railroads can be performed successfully without much expansion of its existing facilities and staffs. The following table showing the number of highway vehicles owned by the agency from 1919 to 1932:

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(56) Lyford, W.H., Solving the Cities' Terminal Problem", Address to Midwest Transportation Conference, Chicago. 1925.

(57) 24 I.C.C. 432.

High Vehicles (Except Passenger Cars) Owned by Railway Express Agency(58)

| Year | Trucks | Tractors | Electric Trucks | Trailers | Vehicles Total |
|---|---|---|---|---|---|
| 1919 | 1928 | 1 | 1004 | 1 | 2934 |
| 1920 | 1930 | 1 | 1010 | 1 | 2942 |
| 1921 | 1979 | 3 | 1038 | 15 | 3035 |
| 1922 | 2080 | 13 | 1071 | 30 | 3194 |
| 1923 | 2533 | 32 | 1215 | 89 | 3869 |
| 1924 | 3207 | 50 | 1426 | 151 | 4834 |
| 1925 | 3651 | 52 | 1520 | 179 | 5402 |
| 1926 | 3872 | 98 | 1548 | 248 | 5766 |
| 1927 | 4184 | 112 | 1553 | 324 | 6173 |
| 1928 | 4636 | 139 | 1607 | 371 | 6755 |
| 1929 | 5764 | 149 | 1590 | 402 | 7905 |
| 1930 | 6881 | 178 | 1534 | 448 | 9041 |
| 1931 | 7671 | 173 | 1479 | 455 | 9978 |
| 1932 | 7448 | 158 | 1506 | 449 | 9561 |

This suggestion met unanimous approval of the members of the association, but no definite plan has been made to materialize it. Meanwhile, this proposal is of course opposed by terminal truckmen.

### 3. Liability For Loss and Damage to Shipment Moving between Railroad Terminal and Store-Door.

The question of the assumption of responsibility for loss and damage to shipments moving between the railroad terminals and shippers' and consignees' store-doors is of vital importance to all parties.(59) One of the resolution of the Committee on Store-Door Delivery of the Atlantic States Shippers' Regional Advisory Board emphasizes that no matter whether the service is performed by the railroads themselves or by their trucking agents, the shippers should be fully protected against loss and damage by the railroads. This is a logical demand. Under the unorganized terminal service, individual shippers select trucking agents known to them to be responsible. Now, the power of selection passes to the rail carriers who appoint certain trucking concerns as their agents, the railroads naturally should assume the responsibility for goods carried by their trucking agents.

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(58) Letter from Mr. J. H. Butler, General Manager, Railway Express Agency, Dec. 1, 1932.

This demand has generally been accepted by the rail carriers in this country. Formerly, the railroads were reluctant to assume the extra responsibility after the shipments were loaded on the cartage vehicles and they considered that drayage was beyond their control. The situation has been greatly changed in the recent years; most of the trucking companies are protected by insurance policies and efficient operation eliminates the changes of pilferage and damage. In the St. Louis and Cincinnati terminal services, discussed elsewhere, the amount of loss and damage to freight transferred in terminal operations has been reduced to a negligible proportion. Under such circumstances there is really little duty assumed by the rail carriers.

### 4 Compulsory or Optional Service?

Another important question in the store-door service is whether the service should be compulsory or optional.(60) Formerly, most of the rail carriers held to the opinion that compulsory service was necessary to protect them from operating inefficiency. They expressed doubt as to the good that could be accomplished by optional service, if railroads were to handle only a small fraction of the total volume of freight, while the bulk of traffic was handled by private trucks or by independent truckmen. This contention is correct to a certain extent. The economies of large scale operation can not be fully realized, if the capacity of equipment is only partially used. On the other hand, shippers' association strongly favor the optional store-door service. At the meeting of the Atlantic States Shippers' Advisory Board in 1924 certain fundamental principles were laid down regarding the operation of store-door service by railroads. The first one is that the use of store-door service should be optional with all shippers and consignees, that is to say consignees or shippers may use their own trucks or employ their trucking agents in the collection and delivery services. They held that this was necessary because of the legal right that permits them to select their agents, and also, because of the practical difficulty that certain commodities need special handling. It was suggested, as a compromise, that shippers be allowed to use their own truck to handle outbound traffic, the delivery of inbound freight to be entrusted to the rail carriers.

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(59) Wilson, G. L., Loyd "Co-ordinated Motor-Rail-Steamship Transportation", p. 160.

(60) Ibid, p. 161.

In recent years this question has been almost settled. Most of the rail carriers realize the importance of the optional service, which not only avoids the legal contention but also creates the good will on the part of shipping public. The recent arrangements of store-door delivery service in this country indicate this tendency. None of them prescribed the compulsory trucking service. Future developments will probably follow these precedents.

### 5. Should Carload or Less-than Carload Freight Be Included, or Both?

Whenever store-door service is discussed, one of the points considered is whether or not the service should include the handling of carload freight as well as L.C.L. freight. It is generally contended that the service should include only L.C.L. freight because carload freight is almost universally loaded and unloaded by the shippers or consignees either at public team tracks or on their private sidings, and does not require the store door service. Moreover, terminal congestion is due largely to the accumulation of L.C.L. freight and the very essence of store-door service is the immediate removal of such freight. However, no rule is without exception. Certain recent plans do not include less-than-carload freight in this service. For instance, the tentative report on the store-door service in New York terminal proposes to handle carload instead of less-than-carload traffic by the trucking service, due to the special local conditions.(61) It is a doubtful question whether other terminals would profit equally by such an arrangement.

### 6. Trucking Charges.

Two different theories stand out in regard to fixing rates for store-door service. One is the application of the cost of service, plus a reasonable profit formula. According to this plan the rail carriers fix the trucking rates just as do independent trucking concerns. The other may be termed the "profit sharing" method.(62) Owing to the saving from the reduction of terminal costs through the store-door service, the rail carrier may charge rates, enough to barely cover the operating and maintaining costs, and less than that of independent trucking concern. The latter method is not only justifiable but also necessary. By this arrangement the shippers have the incentive to use the store-door service and gradually discard their own fleets of trucks.

### 7. Should the Service Include Collection as Well as Delivery?

Formerly, the question whether the service should include collection as well as delivery was of much concern to railroads in discussing the store-door service. From the viewpoint of the railroads the delivery service is more important than the collection service. Unlike the outgoing traffic, which can be controlled by the railroad operation, the incoming freight is at the disposal of the consignees who may use the platform for storage purposes within the period of free time. Therefore, some railroads favored delivery service only. However, the question has lost its significance in recent years, due to the competition of motor freight transportation service. Railroads are bending every effort to offer complete transportation service, which has long been considerad as the strong weapon of the trucking service. It has been generally accepted that the service should include both pick-up and delivery, because failure to supply either service may put the railroads under a handicap.

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(61) W.S. Curlett's Tariff, I.C.C. No. A-385 P.S.C.-N.Y. No. A-51.

(62) Wilson, G.L., loyd "Coordinated Motor Rail Steamsoip Transportation", p. 166.

# CHAPTER VI

## CO-ORDINATED RAIL-MOTOR LINE-HAUL FREIGHT SERVICE

In the preceeding chapters the recent developments in co-ordinated rail-motor freight services in the terminal areas have been discussed. The terminal has usually been considered as the best field for co-ordination. However, truck service may be successfully employed in conjunction with certain phases of railroad line-haul service. Due to the flexibility and elasticity of operation, the truck may serve those districts with dense population and heavy traffic, as well as those with sparse population and light traffic. It may be used to relieve the congestion in large cities where the rail facilities are overtaxed, and, on the other hand, it may be used also to link up outlying stations scattering in rural districts. In absence of standard terminology to differentiate the above-mentioned services, the following classifications may be adopted for convenience in discussion:

1. The substitution of truck service for train operation, including the replacement of local way trains and branch-line trains service by trucks.
2. The extension of new services by truck to territory where no rail service exists. The feeder service offered by railroads in rural districts is an illustration of this type of service.
3. The alternation of motor with existing rail services. The so-called express freight type service illustrates this class of co-ordinated service.
4. The use of interchangeable equipment for both rail and truck operation in the performance of line-haul services. The container car and truck body services are representative of this type of service.

This chapter deals with the first three types of co-ordinated services. The last type, because of its revolutionary nature, deserves separate treatment. It is discussed fully in the following two chapters. (Chapter VII and VIII).

## Substitution for Rail Service.

The substitution of truck for rail movement is sometimes called the "train-saving project", because by employing truck services a certain number of train movements can be curtailed without interrupting the flow of traffic. The real advantages of this change are more expeditious movement and reduced operating costs.

The method of handling traffic is just the same as that of regular rail service. Regular rail rates are applied to and the standard bill of lading issued, even though the shipment will never be handled by the rail trains. The legality of this substitution for rail movement which the rail carrier holds itself out to perform under the terms of the tariffs and bills of lading is an open question still to be decided by the courts.(1) However, both carriers and shippers seem to be quite contented with the service. Thus for there has never been any complaint against such a change since motor service was introduced in this field.

There are three kinds of substitution extensively used by the railroads in this country; first, for local way train, second, for through trains, third, for branch line service.

### Local way Train

The question of short haul traffic, especially in the local way train movement, has long been a serious one for the railroads to solve and has become more acute by the advent of motor transportation. It spite of the constant decrease of short haul traffic, the railroads, as common carriers, hold themselves to serve the public even under unfavorable conditions.

There are many inherent defects in local way train movements which always cause slow and expensive freight handling. Under this method, the train makes frequent stops at every station along the route to pick up traffic. The loading capacities of freight cars are partially used and the hauls are extremely short. This service not only interferes with the movement of other scheduled fast trains, but also imposes a heavy burden upon the railroads. The consumption of coal in this service is out of all proportion to the service performed or revenue earned, because of the frequent stops and a large amount of switching. The labor costs per unit of freight transported are extremely high due to the over-time working of train crews. Even in short haul movements full crews must be employed in order to conform with the service regulation prescribed by the I.C.C. or state commissions. Most of their working time is spent in switching to place the cars at the freight house doors and handling the freight from the platforms to the cars or vice versa. Moreover, the wasteful use of equipment in this service constitutes a great loss to the railroads. A number of box cars, representing an investment of from $1,500 to $2,000 each, are tied up in the service. In fact, way train service rarely earns a profit for the railroads, and, ·in certain cases, the service is operated at a substantial loss.

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(1) I. I. C. Docket 23400, Examiner's Report, Sheet 89.

The Pennsylvania Railroad and the New York Central System are the pioneers in the adoption of trucking in lieu of local way train service. As early as 1923, the Pennsylvania Railroad applied this method on its Maryland Division, and the New York Central Railroad on its Buffalo Division. The motives were not the same for the substitution; the former used it as a means of meeting competition of a rival line, while the latter used it as a solution to car shortage. The result of both systems has been successful. This plan was extended from time to time, until 1931, the Pennsylvania Railroad operated 49 trucking routes covering 1,770 miles daily, with an annual saving of approximately $1,355,000 in operating expenses.(2) In recent years this plan has been extensively used by many railroads throughout the country for three reason; to improve the local freight service, to reduce operating expenses, and to meet the competition of independent trucking concerns.(3)

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(2) I. C. C. Docket 23400, testimony of J. F. Deasey for the Pennsylvania Railroad.

(3) Johnson, Huebner, and Wilson, Principle of Transportation, P. 406.

Operating methods.

Omitting minor details, the operating methods may be summarized as follows:

Traffic Survey.-A comprehensive survey of local conditions is made before the adoption of this plan. Above all the traffic condition in a locality in the controlling factor in determining this substitution. Attention should be given to not only the present volume of traffic but also to the prospective traffic which may be developed by the new service. Generally speaking, due to the difference in loading capacity, the trucking service will be successfully applied only to light traffic sections, wherever the volume of traffic can be handled by one or two trucks. In cases where the volume of traffic is sufficiently heavy, box car handling is usually desirable, for the latter unit is more suitable for large scale handling.

Under the Pennsylvania Railroad practice when trucks are used in place of the way train service, box cars are still employed in handling shipments over 10,000 pounds in weight.(4) The New York Central System once used trucks to replace the local train between Syracuse and Rochester. Later the railroad found out that the traffic in that area was too heavy for the truck operation, and freight train operation was resumed.(5)

The density of train operation and the handling practice should also be considered. In certain section the railroad operates separate way trains to handle C.L. and L.C.L. traffic, trucks however may be employed to haul L.C.L., and trains for C.L. traffic. This substitution may result in a more expeditious movement and less expense. In other instances, when the railroad operates the same trains to handle both C.L. and L.C.L. traffic, other factors should be taken into consideration. The railroads may reduce the number of way trains by diverting a portion of the traffic to trucks.

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(4) Anonymous, "Pennsylvanis Truck Speeds Up Service", Railway Age, Sept. 25, 1926. p. 595.

(5) I.C.C. Docket 23400, New York Hearing, Testified by New York Hearing, Testified by New York Central System.

Another factor to be considered is the condition of highways within the designated zones. The ideal condition is found in cases where the highways afford shorter routes between two points than the distance by rail lines, or the routes may bring more traffic to the railroad. In case the highways run too circuitous and over heavy grades, the operation will be expensive.

Selecting Concentrating Point.—Upon information secured by the traffic survey, the railroad may divide its system into a number of freight zones. No single rule can be given as to how large the zone should be. The size of the zones varies according to the local conditions. Generally, zones range from 25 to 75 miles, which permits at least one roundtrip, and in some cases two round trips per day. Within each zone a concentrating point(6) should be selected, located either at the center of the zone or at a strategic point where the freight may be conveniently delivered to and collected from the surrounding stations. Definite truck routes are selected, radiating from the concentrating points and linking up all local stations within the zones. In some cases, the truck route may connect many towns and villages where no rail service exists.

Inbound traffic destined to the stations within the zone is unloaded at the concentrating point and the freight is trucked to its final destination. The reverse operation is applied to outbound traffic; shipments are collected by trucks at local stations and delivered to the concentrating point. In case the shipment is to be delivered from one town to another, both of which are located in the some zone and on the fixed trucking route, the shipment is delivered by truck and not transported by train at all, it is just the same as if the freight were transported by train service.

At each concentrating station a truck dispatcher or a superintendent of terminal operations is authorized to take charge of the trucking movements within his zone. By constant contact by telephone, with every station agent within his zone he is thoroughly aware of the traffic on hand at every station and makes arrangements to expedite its movement. The freight agent at every local station is required to notify the dispatcher in advance when there is no freight to be handled in order to avoid unnecessary truck calls.

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(6) Lacking standard terminology, the concentrating point may sometimes be called the "set-up" point, or the "zone station" both of which mean the same thing.

Trucking Schedules.—In fixing the trucking schedules, several factors must be taken into consideration: the kind of equipment to be employed in the services: whether the service should be offered daily or every other day; whether the same trucks should make round trips: and many related questions. All these can, of course, be answered only by the careful study of the traffic condition in that territory. In a light traffic district a five-ton truck may serve from 10 to 20 small stations, while in heavier traffic sections large tractors and trailers may be needed. In most cases, the same trucks may do the pick-up and delivery services between the concentrating point and various local stations. In this way the empty return loads can be avoided.

The trucking service may be performed either by the local truckmen or by the railroads, subsidiary companies. The Pennsylvania Railroad and the New York Central System employ trucking agents, while the Boston and Maine Railroad and the New York, New Haven and Hartford Railroad perform the service through subsidiary companies. In either case the trucking companies act as the agents of the railroads and have no direct contacts with the shipping public.

It should be borne in mind that this service is simply a substitution for the train service, the railroad, therefore, assume the same responsibility as if the shipments were transported by train. In case of any loss and damage to freight the claimants shall file their claims with the railroad freight claim departments, not with the trucking companies. The railroads settle the cases with the shippers according to the usual procedure, and investigate the causes to determine whether the railroads or the trucking companies should bear the loss.

## Advantages of Trucking Service.

Many advantages, both tangible and intangible, have been demonstrated by the substitution of motor truck for local train service. Among the tangible advantages is the reduction of train mileage, which has affected great savings in operating expenses. Although the operation of motor vehicles does not wholly supplant the way train, it tends to reduce the number of short haul movements in light-traffic sections. An idea of the economies possible through the substitution of trucks for way trains is shown in the following schedules as rearranged by the Boston and Maine Railroad in the local way train service.(7)

### Local Way Trains Substituted by Truck Service
### Boston and Maine Railroad

| Location | Average Weekly Saving in Train Miles |
|---|---|
| Providence-Milford | 159 miles |
| Providence-New Haven | 678 ,, |
| New Haven-Providence | 678 ,, |
| Providence-Pontiac-Hope | 300 ,, |
| Providence-Pascoag | 276 ,, |
| Providence-Fall River & return | 432 ,, |
| Providence-Bird Mills-Mansfield & return | 348 ,, |
| Providence-Boston | 249 ,, |
| Putman-Southbridge & return | 252 ,, |
| Putman-South Worcester & return | 300 ,, |
| South Worcester-Southbridge & return | 282 ,, |
| New Haven-Westfield | 366 ,, |
| Westfield-New Haven | 366 ,, |
| Westfield-Travelling Switcher | 131 ,, |
| Northampton-Williamsburg & return | 168 ,, |
| Plainviles-New Hartford & return | 264 ,, |
| New Haven-Holyoke | 510 ,, |
| Readville-Midland & return | 436 ,, |
| Hartford-Rockville & return | 241 ,, |
| Danbury-Litchfield & return | 309 ,, |

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(7) I. C. C. Docket 23400, Boston Hearing, Testified by the Boston and Maine Railroad.

| Location | Average Weekly Saving in Train Miles |
|---|---|
| Danbury-Bridgeport & return | 232 Miles |
| Danbury-Canaan & return | 308 ,, |
| Danbury-Waterbury & return | 120 ,, |
| South Braintree-South Shore | 433 ,, |
| South Braintree-Plymouth & return | 420 ,, |
| Brockton-Taunton-Norton & return | 607 ,, |
| South Braintree-Hanover | 287 ,, |
| Taunton-Newport | 202 ,, |
| Newport-Taunton | 202 ,, |
| Boston-Fitchburg & return | 964 ,, |
| Readville-Fall River & return | 492 ,, |
| Total | 11,009 miles |

New Local Way Trains Added to Link up Truck Services

Boston and Maine Railroad.

| Location | Average Weekly Train Miles added |
|---|---|
| Providence-Hope-Esmond | 132 miles |
| Providence-Pascoag | 138 ,, |
| Providence-New London | 384 ,, |
| New London-Providence | 384 ,, |
| Putman-Worcester | 150 ,, |
| South Worcester-Putman-Soubridge | 235 ,, |
| New Haven-New Hartford & return | 540 ,, |
| Westfield-Plainville & return | 408 ,, |
| Cedar Hill-Wesfield | 390 ,, |
| Danbury-Oad Switcher | 220 ,, |
| South Braintree-Burrage | 305 ,, |
| Boston-Midleboro | 420 ,, |
| Taunton-Fall-River & return | 156 ,, |
| Readville-North Easter & return | 192 ,, |
| Fall-River-Newport & return | 221 ,, |
| 15 routes | 4,275 miles |

It can be seen from the above tables that the local way train schedules have been rearranged in such a way that 31 routes are reduced to 15 routes and 11,009 train miles per week reduced to 4,275 train miles per week,-a saving of 6,734 miles weekly.

It is true that this figure should never be interpreted as the net saving to the railroad because the trucks are employed instead. Nevertheless, the saving in operating expenses is indisputable. The New York, New Haven and Hartford Railroad reported that since the adoption of trucking service for local way trains, the railroad has been able to reduce approximately 350,000 train miles yearly, at an reduction in operating expenses of about $630,000. On the other hand, 130,000 truck miles are operated yearly at the operating cost of $440,000,—a net saving to the railroad of $190,000 yearly.(8)

Other improvements, which can hardly be measured in terms of dollars and cents, are of equal importance. Trucking service expedites the movement as much as 24 hours Shipments can be delivered on the same day instead of on the following day as under the former system. A study was made by the New York Central System, covering the Erie Division to compare the time of delivery by truck and train. It revealed that 54.9% of the traffic was moved at a speed identical with that of way trains, 38.6% received faster and better handling, and only 6.5% suffered poorer handling.(9)

By eliminating numerous unnecessary handlings, an approximate reduction of 50% in loss and damage on L.C.L. freight carried by trucks was shown as compared with its movement by railroad. By diverting a part of the slow moving traffic to trucks the terminal facilities can be reserved for other through traffic without imposing additional expenses upon the railroad. Furthermore, box cars released from the way train service can be used for through train service and their loading capacity can be used more extensively than in the local movement. Finally, the expeditious movement meets the requirements of modern commercial practices, this may help the railroads to face the threat of motor competition.

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(8) I.C.C. Docket 23400 Testified by A.H. Fairfield, for New York, New Haven, and Hartford Railroad.

(9) I.C.C. Docket 23400 Testified by F.E. Mc-Cormack, for New York Central System, record 2460.

Through Trains.

The assemblage of traffic at concentrating points by trucks is by no means limited to way freight train service the same underlying principles, except on a larger scale, can be applied with equal success to through train movements. Under this arrangement through trains do not make stops at intermediate stations; trucking service is operated on regular schedules to connect those selected points with surrounding stations. Outbound traffic from the local station is carried by trucks to the concentrating points in time to be loaded upon the through trains, while inbound traffic destined to local stations is unloaded at the zone stations to be delivered to its final destination by trucks. Two outstanding plans are illustrative:—

Maine Bullet Service.

The Maine Bullet service was inaugurated on June 15, 1931, jointly operated by the Boston and Maine and the New York, New Haven and Hartford Railroads.(10) As indicated by the slogan of this service "accept today, delivery tomorrow," overnight service is offered between Portland, Me., and New York City. The trains are operated on a 13-hour schedule, a reduction of at least 24 hours as compared with former service. This has been made possible only through the combination of motor truck and rail movements and through the elimination of unnecessary transfers at intermediate stations.

In concentrating freight from numerous small stations to the zone stations, the trucking service is performed by the New England Transport Company and the Boston and Maine Transportation Company for their respective lines.

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(10) "Fast Freight Service To Meet Competition," Railway Age, June 27, 1931. p. 1257. "New Haven Uses Trucks to Speed L.C.L. Delivery," Railway Age, Aug. 1, 1931. p. 163.

Numerous concentrating points are located along both railroad. The more important concentrating points are Boston, Lowell, Lawrence, Mass., Bridgeport, New Haven, Putman, Conn., and Providence, R.I.

The most significant feature of this service is that the railroads offer the fastest service between almost every important producing and distributing point in the New England Territory. In Boston, the trucks of the New England Transport Company serve 61 outlying stations around the concentrating point on the N.Y.N.H. & H.R.R., while the trucks of the Boston and Maine Transportation Company perform the same service for 50 outlying stations on the line of the Boston and Maine Railroad. At other large concentrating stations such as Bridgeport, Conn., trucking service is provided to 39 surrounding points; from New Haven, Conn., to 41 points; and from Hartford, Conn., to 47 points.

It is estimated by the New York, New Haven and Hartford Railroad that under this plan of operation between 90% to 95% of all local freight stations on the line are served with overnight service. To those points the railroad could offer only second or third morning delivery under former arrangements.

Hand-to-mouth buying policies have made frequent calls upon the wholesalers to reinforce retailers stocks. In New Haven manufacturers receive orders from New York City in the late afternoon for goods required to be delivered the next morning. When the rail service was not fast enough, manufacturers naturally prefer the overnight services offered by trucking carriers. Under the new method the through trains are scheduled to reach their destinations with a radius of 300 miles so that shipments can be ready for distribution on the next morning. Records show that this service has already brought back to the railroads considerable business which had been lost to other transportation agencies.

Similar service is provided in connection with Pennsylvania Railroad between Boston and Baltimore. The Railroads operated a 12-hour freight service between Boston and Philadelphia, and a 15-hour service between Boston and Baltimore. The operating method is identical with the one mentioned above.

The "Blue Streak Train" Service.

The coordination of motor and rail into a closer relation ship has made it possible for the St. Louis Southwestern Railroad to offer a fast freight train service, known as the "Blue Streak" service, between St. Louis, Mo., and Shreveport, La., a distance of 636 miles on a 17-hour schedule, at a scheduled speed of 40 miles per hour. This is, perhaps, the fastest scheduled freight train in the United States because the train is drawn by high powered locomotives usually used only in the passenger service. The Railroad through this service challenges the trucking carriers by offering overnight service between St. Louis and Shreveport and all intermediate stations.

The accompanying map shows the trucking services connecting the local stations with the concentrating points. The following stations are selected as concentrating points: East St. Louis, Illmo, Malden, Rector, Jonesboro, Stuttgart, Pine, Bluff, Camden, Lewisville, Shreveport, and Texarkana.

The freight cars are loaded in destination order, shipments to the same zones are loaded into the same cars. A brief summary of loading method, as made by Mr. Grey Bruno, an official of the traffic department of the St. Louis Southwestern Railway, is as follows:(11)

1. The Madden car has all package freight destined to Malden proper and all points up and down between Illmo and Paragould.
2. The Jonesboro Freight is usually loaded into two cars, one for Truman and Memphis, the other Jonesboro proper and points around Paragould and South to Brinkley, Arkansa.
3. The Stuttgart car carriers freight for Stuttgart proper, Little Rock, and the Gillett and Hazen Branches.

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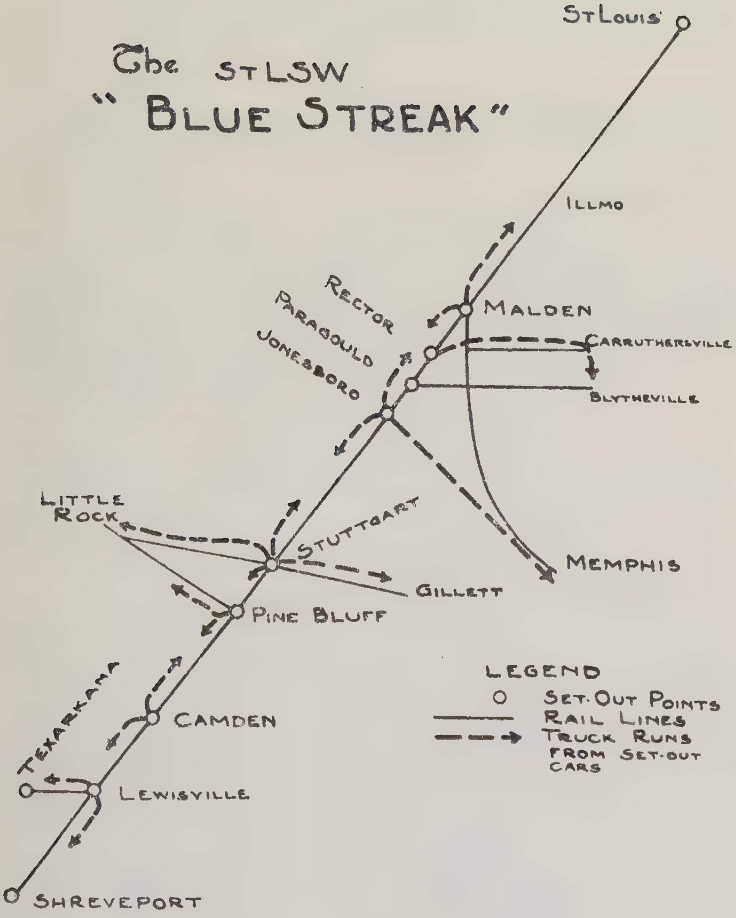
(11) Letter from Mr. Grey Bruno, Assistant to Freight Agent of the St. Louis Southwestern Railway, Jan. 20, 1932.


The STLSW
"BLUE STREAK"
ST LOUIS
ILLMO
RECTOR
PARAGOULD
JONESBORO
MALDEN
CARRUTHERSVILLE
BLYTHEVILLE
MEMPHIS
LITTLE ROCK
STUTTGART
GILLETT
PINE BLUFF
TEXARKANA
CAMDEN
LEWISVILLE
SHREVEPORT
LEGEND
SET-OUT POINTS
RAIL LINES
TRUCK RUNS FROM SET-OUT CARS

4. The Pine Bluff car has freight for the city of Pine Bluff and stations north and south of Pine Bluff.
5. The Camden car contains freight for the main line north and south of Camden proper and also freight for interchange between L.&.A. and L. &. N. W. Railroads.
6. The Shreveport cars are switched south at Lewisville, one for interchange, the others for Shreveport proper.
7. Two or more cars are destined to Texarkana and points beyond the state line of Texas.

The train schedule is arranged to meet traffic conditions. A train leaves St. Louis at 6.10 p.m. to enable shippers to deliver their last order of the day to the train. An overnight service is offered as far as Shreveport, as shown in the accompanying schedule:

Schedule of "Blue Streak"

Train No. 3 Daily, except Saturday and Sunday

| | | |
|---|---|---|
| 6.10 p.m. | Lv. | E. St. Louis |
| 9.10 p.m. | Ar. | Illmo |
| 9.15 p.m. | Lv. | Illmo |
| 11.00 p.m. | Ar. | Malden |
| 11.40 p.m. | Ar. | Rector |
| 12.37 a.m. | Ar. | Jonesboro |
| 12.45 a.m. | Lv. | Jonesboro |
| 3.25 a.m. | Ar. | Stuttgart |
| 4.15 a.m. | Ar. | Pine Bluff |
| 4.30 a.m. | Lv. | Pine Bluff |
| 7.15 a.m. | Ar. | Camden |
| 9.10 a.m. | *Ar.* | *Lewisville* |
| 9.20 a.m. | Lv. | Lewisville |
| 11.50 a.m. | *Ar.* | *Shreveport* |
| 10.45 a.m. | Ar. | Texarkana |

Branch Line Operation.

Owing to the flexibility of the motor truck, many railroads have found that trucking operations can be profitably used in those districts where the volume of traffic is too light to support a train operation. The unit cost of rail service is extremely high in a light traffic sections. If the same volume of traffic can be handled by trucks, then substitution would save the railroad a great deal of operating expense.

The first pioneer line using the motor vehicles on a large scale to replace the railroad branch line service was the Boston and Maine Railroad. As early as 1924, Homer Loring, then Chairman of the executive committee of the railroad, made the suggestion that the total mileage of the line should be reduced from 2,450 to 1,350 miles, a reduction of approximately 1,000 miles, and that motor service be established supplementing the rail service. This change was based on a traffic survey made by the railroad which showed that the branch lines, representing about 45% of the total mileage, handled only 3% of freight traffic.(12) His plan met with unanimous approval by the executive committe of the railroad. Accordingly, the Boston and Maine Transportation Company, a motor company, subsidiary to the railroad, was formed to operate motor service both passenger and freight in co-ordination with the rail service so that better service and economy in operation might be obtained.

Two recent cases on the B. & M. line typify the substitution of truck for rail service.(13) The rail movement on the branch line between Belmont, N.H., and Lakeport, N.H., a distance of 7 miles by highway, was wholly supplanted by trucks in August 1930. The structure on that line needed renewal, but the traffic conditions did not justify the investment. The railroad suspended rail service and substitute truck operation instead. Under the new method, all C.L. and L.C.L. freight, express and mail are handled by trucks. At Belmont an open station was maintained on part time basis. The freight agent at Lakeport rides on the trucks and keeps the station at Belmont open for two hours each week day.

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(12) Anonymous, Boston & Maine Reorganization Reported, Railway Age, Dec. 27, 1924, p. 1157.

(13) Carey, J. F., "Seven Years of Trucking", Railway Age, Feb. 27, 1932, p. 371.

Another substitution was made in June, 1921, on the branch line at New Boston. The method of operation is similar to the above one except that this station has been kept open with a full time agent. Express and mail are trucked to and from Manchester, 15 miles from New Boston, while C.L. freight is trucked to and from Goffstown, 7 miles from New Boston. These stations are the concentrating and distributing points for the outbound and inbound traffic of New Boston.

The meeting of seasonal traffic conditions along branch lines, is another motive for the substitution of truck for rail movement. The Central Railroad of New Jersey is confronted with the problem of excessive costs in handling the L.C.L. traffic in the seashore district, where the fluctuations in traffic movement is so great that during the off-season the train operation is unduly expensive. There is not sufficient traffic to warrant the operation of an exclusive L.C.L. train, which made it necessary that this kind of traffic be handled on C.L. trains. The frequent stops at minor stations to load and unload L.C.L. traffic made the operation cumbersome, and resulted in excessive train-crew overtime.

Based upon a traffic survey for a period of six months on the branch line traffic in 1928, the railroad decided to use a five-ton truck to handle L.C.L. traffic on its branch lines between Jersey City and Point Pleasant, N. J. The truck starts with the load from Red Bank, picks up a second load at Long Brance and a third at Asbury Park, and distributes the load at nine intermediate stations throughout its route. On its return trip, it picks up outbound freight in reverse order. Prior to the establishment of the trucking service, the way train which handled both C.L. and L.C.L. traffic from this district consumed about eleven hours on each trip. The wages paid for over-time work were also very high. This substitution resulted in a saving of $116 per day in railroad operating expenses. The operating and other expenses of the trucking service amount to only $26 per day, producing a net saving to the railroad of $90 per day.(14)

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(14) Meredith, J. W., "One Motor Truck Saves $28,000 for Jersey Central", Railway Age, Aprit 27, 1929, p. 999.

## All-Highway Services Offered by Railroads.

All-highway trucking service opens up new fields which were formerly beyond the reach of rail service. Generally, these services fall into two classes; first, feeder services, and second, direct routing service.

Feeder Services.—The problem confronting the railroad to maintain rail service in certain rural districts where the volume of traffic is light is always a difficult one, yet farmers need transportation to move their products to the market, and to obtain necessary supplies and equipment. In order to achieve financial success a railroad requires sufficient traffic to compensate it for its service, or at least it is necessary that prospective traffic assures such revenues within a reasonable limit of time, otherwise the railroad must draw revenue from other sources to make good the deficit suffered from this operation. Rural districts are usually inadequately served by the rail carrier for this reason. In 1928 it was estimated by the Interstate Commerce Commission that there were approximately 125,000 communities of appreciable size in the United States, approximately 80,000 of which had freight stations on railroads, while 45,000 communities were without such service. These 45,000 communities constitute not less than 10% of the total population of the country.(15)

Motor Transportation offers the best solution to the problem of serving these communities because of its elastic and flexible service. Trucks can be operated as single units and their route can be altered without any additional expense to the carriers. It is generally conceded that the trucking service may be employed into the rural district as an intervening stage between no railroad facilities and the regular train service. Without extending the rail line, the outlying farms and villages situated some distance from railroads can be brought within the rail orbit. The construction of rail facilities can be postponed until the traffic in that district has been developed to such an extent that railroad service is justified.

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(15) 140 I.C.C. 718.

Motor service offers better and quicker service and sometimes widen the radius of the market activity of farmers. This tends to promote the intensive cultivation of land and to increase the products of perishable goods, and, thereby, increases freight traffic. Furthermore, the use of trucks makes it possible to distribute the flow of traffic more evenly throughout the entire period and enable the railroads to save a portion of the investment in equipment to handle peak traffic.(16)

The best illustration of this situation is found in the experience of the Omaha Railroad.(17) Through its motor subsidiary company, the Wilson Transportation Company, the railroad offers regular trucking service to numerous rural districts in South Dakota and Iowa, where no rail service exists. Arrangements have been made with the local warehousemen or garage owners in that district to act as the railroad's station agents in collecting and distributing shipments, supplying the necessary information about the rates and methods of using the trucking service, and reporting to the trucking company the available traffic on hand in each territory. The number of concentrating points is governed by the volume of traffic. The trucking company does not collect shipments from individual farms, all shippers being required to send the freight to the nearest concentrating points.

In formulating trucking routes it is always the policy of the Omaha Railroad to avoid wasteful duplication and competitive service between the rail and the motor company by extending truck service to those districts where no rail service is available rather than paralleling its own rail line. Accordingly, Sioux Falls was selected as the operating base. All truck routes radiate from this point to connect with important jobbing centers as a supplement to the rail service. Three interstate and nineteen intrastate routes are provided serving the following points; Yonkton, Lake Andes, Winner, Witchell, South Dakota; Chamberlain, Pratt, Brooking, Pipestone, and Luverne, Minnesota; and Sioux City, Iowa.

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(16) Chatburn, G.R., "Highways and Highway Transportation", p. 169.

(17) I.C.C. Docket 234000, Testimony of Carl R. Gray, Jr., for Omaha Railroad.

Some of the routes do not strictly follow this policy due to the reason that certain terminals are fixed in the charter by the state public utility commission. If the railroad failed to operate these routes, other independent trucking companies may step in and compete with the railroad traffic. This would be worse than the operation of parallel lines by the railroad itself.

The bonus system is adopted to encourage the truck drivers to solicit traffic for the trucking company.(18) Each driver is assigned to a definite route so that he can get acquainted with the shippers in that territory and develop personal contacts, an important element in traffic solicitation. The transportation company keeps complete records of the tonnage of freight handled by each route. At the end of the month comparisons are made with the average tonnage of the previous three months on that route. In case there has been an increase in tonnage the driver receives 10% of the increased revenue as his bonus. Under this plan the drivers are naturally extending every effort to get more traffic. This has proven very effective as a means in promoting business.

Direct Routing.-Another plan of all highway service operated by railroads is the direct routing plan. During the recent investigation by the Interstate Commerce Commission many witnesses testified that owing to circuitous routes many rail lines require two or three days to reach a small town located on the branch line, while by way of highway the time consumed is reduced to a few hours. The accompanying diagram shows graphically the significance of this plan.

In this case, the community "A" is served by the branch line, a shipment from "A" to "B" or "A" To "D" must be directed through the point "C" over a roundabout route. This is always a time-consuming method. The same shipment can be hauled by truck directly to "B" or "D" without moving through the transfer point. This service is especially desirable for goods requiring prompt movement.

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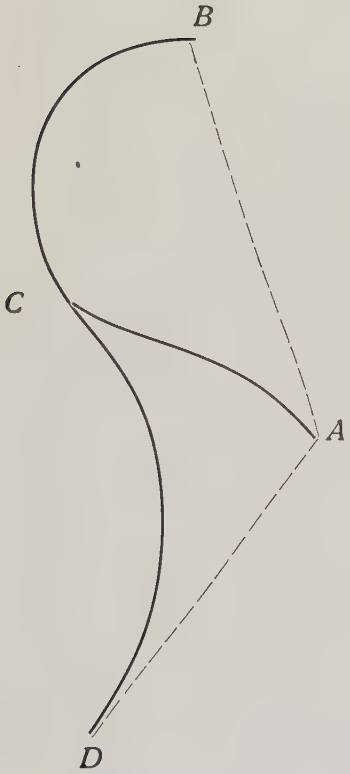
(18) Ibid.



The solid lines indicates the rail routes.
The dotted lines indicate the truck routes.

The geographic and commercial conditions of the Omaha Railroad furnish a good illustration for this kind of service. In the state of South Dakota most of the railroads extend from east to west, and very few run from north to south. Along the rail lines are located a number of jobbing centers competing keenly with each other for retail business, such as Sioux Falls, Sioux City, Iowa; Mitchell, Huron, and Yankton, South Dakota. Transportation is the most important factor in determining the volume of sales. Any jobber who can get faster and cheaper means of conveyance than another is in a better position to extend his market than his commercial rivals.

A comparison of the rail and the truck service on that line indicates the importance of direct routing by truck. Shipments from Sioux Falls, North Dakota, to Brooking, South Dakota, by rail movement go via a roundabout route; first from Sioux Falls to Salem, a distance of 40 miles; then north to Huron, 68.3 miles; and finally to Brooking, 72 miles, or a total distance of 180 miles. The distance between these two points by highway is only 58 miles, and the time consumed is only three hours, including store-door pick-up and delivery.

Under such circumstances, the railroad suffered a substantial loss of L.C.L. traffic to the truck lines serving the territory. A traffic survey made by the Omaha Railroad showed that from January 1929 to May 1929, 9,427 tons of freight and 3,892 cans of cream were transported via truck routes. Should the same amount of traffic be diverted to railroads it would yield a revenue in the neighborhood of $70,000 yearly. The railroad decided to install the trucking service supplementary to its existing line and to protect them from further loss. Accordingly in 1929, the Wilson Transportation Company, the largest one in that territory, was acquired through stock control by the railroad. Ten truck routes were placed in operation giving the same day delivery to all stations on routes of the Wilson Transportation Company. The result of such service has been so successful that, it is estimated by the Wilson Company about 75% of the trucking traffic in that territory is handled by it.(19) Trucking is also used in connection with interline movements. Most of the railroads use this method in the interchange freight between junctions, when the highway routes are shorter than that rail routes. This not only results in prompt transfer but it also eliminates unnecessary handlings.(20)

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(19) Ibid.

## Express Freight Type of Operation

Express Type of operation means that under certain arrangements the railroads and their subsidiary companies may perform service for each other. The railroad performing line-haul services and the subsidiaries taking care of terminal operations. The relationship between the railroads and their subsidiaries is the same as that existing between the carriers in the railway express service. Under this arrangement the railroad is an agent working under contract for its subsidiary and has no direct relation with the shipping public, while the subsidiary company acts at the same time as shipper and carrier, to the freight owner the subsidiary company is a carrier, to the railroad it is shipper.

The transportation company may perform the trucking itself or make contracts with the existing truckmen for the service. In the latter case the main function of the transportation company is to act as an intermediate agent between its parent line and the existing trucking concerns, in order to provide the co-ordinated service without resorting to wasteful competition and duplication of facilities.

This form of service was first instituted by the Boston and Maine Railroad in 1925, through its subsidiary company, the Boston and Maine Transportation Company. Complete service was offered at Boston, Lawrence, and Lowell Mass.(21) Since that time this type of operation has been widely copied throughout the country, especially in the Southwestern and Western Territories, for instance, railroads using this method include the Texas and Pacific Railroad; the St. Louis-Southwestern Railroad; the Missouri-Kansas-Texas

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(20) N. Y. C. R. R. exchanges freight with the P. R. R. on the Buffalo Division by trucks.

(21) Wilson, G. L., Loyd "Co-ordinated Motor-Rail-Steamship Transportation", Chapter IX.

Form S.W.T. 119 C—CB.

# BILL OF LADING

**No.**

SHIPPER'S No.______

## SOUTHWESTERN TRANSPORTATION CO.

*Received,* subject to the classifications and tariffs in effect on the date of the receipt by the carrier of the property described in the Original Bill of Lading

at______, 193__

from______

the property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown), marked, consigned and destined as indicated below, which said company (the word company being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery at said destination, if on its own road or its own waterline, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed, as to each carrier of all or any of said property over all or any portion of said route to destination, and as to each party at any time interested in all or any of said property, that every service to be performed hereunder shall be subject to all the conditions not prohibited by law, whether printed or written, herein contained, including the conditions on back hereof which are hereby agreed to by the shipper and accepted for himself and his assigns.

(Mail or street address of consignee—For purposes of notification only)

Consigned to______

Destination______ State of______ County of______

______ Trip No.______

(Delivering Carrier)

| No. Packages | DESCRIPTION OF ARTICLES, SPECIAL MARKS & EXCEPTIONS | *WEIGHT (Sub. to Cor.) | Class or Rate | |
|---|---|---|---|---|
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

NOTE—Where the rate is dependent on value, shippers are required to state specifically in writing the agreed or declared value of the property.

The agreed or declared value of the property is hereby specifically stated by the shipper to be not exceeding $______

If charges to be collected at destination, show carrying charge here.

$______

If charges are to be prepaid, write or stamp here, "To be Prepaid."

Received $______
to apply in prepayment of the charges on the property described hereon.

______
Agent or Cashier

Per______
(The signature here acknowledges only the amount prepaid.)

Tax $______

Amt. C. O. D. $______

C. O. D. Charges $______

Total Charges $______

______Shipper

Per______

RECEIVED IN GOOD ORDER, OR AS NOTED.

Signed______

By______

Received Freight Described above.

______Agent

SOUTHWESTERN TRANSPORTATION COMPANY

Per______

COPY

## TERMS AND CONDITIONS

Section 1. (a) The carrier or party in possession of any of the property herein described shall be liable as at common law for any loss thereof or damage thereto, except as hereinafter provided.

Sec. 1. (b) Carrier or agent will not be liable for damages of any property in his or their possession which damage is caused by the act of God or condition entirely beyond control of agent or carrier.

Sec. 2. (a) Property on which carrier or agent is not able to effect delivery may be returned at shipper's expense forty-eight hours after arrival at destination shown on bill of lading.

Sec. 2. (b) Perishables will be accepted at shipper's risk, carrier or agent being responsible only when delivery is not effected at destination or attempted within usual time required for delivery between points of origin and destination.

Sec. 3. Property of unusual sizes, shapes or forms which will not normally enter standard vehicles of carrier will not be accepted for transportation.

Sec. 4. Issuance of this bill of lading by carrier does not guarantee that property will be transported between origin and destination on any specific vehicle or by any specific means of transportation, the carrier having the right to use any means desired between these two points, provided, however, the normal delivery time is effected.

Sec. 5. Carrier will not be liable for damages in any case where the claim is not noted on Bill of Lading at time of delivery and presented to carrier in writing within ten days after delivery.

Sec. 6. No suit or action for the recovery of any claim for damages for loss or injury to property shall be sustainable, unless begun within six months next after the cause of action shall accrue, and if begun later, the lapse of time shall be conclusive evidence against the validity of such claim, any statute of limitation to the contrary notwithstanding.

Sec. 7. (a) When property shall be carried hereunder at regular rates, such carriage shall be at the risk of the shipper, and the recovery of damages from carrier for loss or injury to such property shall be limited to the amount of freight charges thereon.

Sec. 7. (b) When, as it may be at shipper's option, property shall be carried hereunder at a rate ten percent higher than regular rates, carrier shall be liable as an insurer of such property, but not in excess of the declared value thereof.

Railroad; the Spokane, Portland, and Seattle Railroad; the Pacific Electric Railway; the Southern Pacific lines in Texas; and the Illinois Central Railroad.

The subsidiary company performs the collection and delivery service at both ends while the railroad makes the line haul movement. When shipments are collected by trucks, the bills of lading of the subsidiary company are issued as receipts by the truck drivers to the shippers. (See accompanying form). A clause in the bill of lading provides that the transportation company reserves the right to use any means desired between the originating point and destination. In other words, the company may use either highway or rail service at its discretion.

The station facilities and forces are usually jointly used by the railroad and its subsidiary. When the shipments reach destination stations the freight agents of the transportation company determine whether they will be shipped by rail or by truck. The more efficient means of transportation is used whenever possible. For instance, between Little Rock and Stuttgart, Arkansas, on the St. Louis Southwestern Railroad, there is no scheduled freight train for L.C.L. freight in the day time, but the motor transportation subsidiary of the St. Louis Southwestern R.R., operates a truck service on day schedule. Shipments received in the day time are handled by truck and those received during the night by rail.

When shipments are handled by rail service, the railroad issues bill of lading to cover the shipments just as in ordinary cases, and at destination the shipments are turned over to the trucking company for distribution.

In order to facilitate the station billing work at destination a special form of waybill, known as the multipart combination of six-ply waybill is used by the transportation company (See accompanying form) It consists of:

Part I Freight waybill
Part II Cashier's memorandum,
Part III Freight bill,
Part IV The delivery receipt,
Part V The Station record, and
Part VI The copy.

This complete set of papers can be made at one time at the originating station by duplicating typing. Accompanying the shipments, this set of paper is sent to destination, so that the goods can be delivered to the consignees as soon as they arrived.

### Rates.

The rates for this service vary according to local conditions. In some cases standard truck rates are prescribed by the state regulatory bodies, either slightly higher or lower than the rail rates for the same classification of freight. In other cases, the rates are regular rail class rates, but the truck rates usually include delivery and collection services.

Such arrangements are necessary because of existing truck competition. When the Texas and Pacific Railroad first inaugurated the express type of operation through its subsidiary company, the rates were fixed a little higher than the rail rates on the assumption that the store-door service should be operated at the shippers' expense.(22) However, the service failed to produce any appreciable amount of traffic, because shippers used the service of independent trucking or forwarding companies where no extra charges were imposed for pick-up and delivery service. Accordingly, the rates were reduced to the same level as the competitive trucking rates. This change brought a tremendous volume of traffic to the transportation company. The conclusion was reached by the operating line that unless the service as well as the rates are just the same as the trucking concerns, the railroad is not in a position to compete for L.C.L. shipments.

This method of co-ordination has proved to be an effective means to put the railroad on even terms with the existing trucking carriers. Many operating lines report that either the trend of loss of merchandise freight

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(22) Anonymous, "How Can Railways Recover Lost Freight Traffic," Railway Age, Aug. 22, 1931. p. 294.

75M - 10 - 30

# THE TEXAS AND PACIFIC MOTOR TRANSPORT COMPANY

Form 478

## FREIGHT WAYBILL

PART 1

| | | | |
|---|---|---|---|
| CAR INITIALS AND NUMBER | C. O. D.<br>Amount $ .................. | DATE | WAYBILL No. |
| To Station State | Origin Drayage Payment | From Station State | |
| CONSIGNEE AND ADDRESS | Destination Drayage Payment | FULL NAME OF SHIPPER | |

Indicate by symbol column provided * how weights were obtained for L. C. L. Shipments only. R—Railroad Warehouse Scale. S—Shipper's Agreement or Tested Weights. E—Estimated—Weigh and Correct.

| DESCRIPTION OF ARTICLES AND MARKS | AUDIT | * | WEIGHT | RATE | FREIGHT | ADVANCES | PREPAID |
|---|---|---|---|---|---|---|---|
| | | | | | | | |

Destination Agent's Freight Bill

Date..............................19.........No. .......................Total To Collect $ ................. .......................

Destination Agent Will Stamp
Herein Station Name and
Date Received

75M - 10 - 30

# THE TEXAS AND PACIFIC MOTOR TRANSPORT COMPANY

Form 478

## CASHIER'S MEMO.

## PART 2

| | | | |
|---|---|---|---|
| CAR INITIALS AND NUMBER | C. O. D.<br>Amount $ .................. | DATE | WAYBILL No. |
| To Station State | Origin Drayage Payment | From Station State | |
| CONSIGNEE AND ADDRESS | Destination Drayage Payment | FULL NAME OF SHIPPER | |

Indicate by symbol column provided ✻ how weights were obtained for L. C. L. Shipments only. R—Railroad Warehouse Scale. S—Shipper's Agreement or Tested Weights. E—Estimated—Weigh and Correct.

| DESCRIPTION OF ARTICLES AND MARKS | AUDIT | ✻ | WEIGHT | RATE | FREIGHT | ADVANCES | PREPAID |
|---|---|---|---|---|---|---|---|
| | | | | | | | |

Destination Agent's Freight Bill

Date..............................19.........No. ........................Total To Collect $ ................. ........................

C. O. D. No. ..................................Settled by Draft No. .............. ....... ...........................19.........

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# THE TEXAS AND PACIFIC MOTOR TRANSPORT COMPANY

Form 478

## FREIGHT BILL

## PART 3

| | | | |
|---|---|---|---|
| CAR INITIALS AND NUMBER | C. O. D.<br>Amount $.................. | DATE | WAYBILL No. |
| To Station State | Origin Drayage Payment | From Station State | |
| CONSIGNEE AND ADDRESS | Destination Drayage Payment | FULL NAME OF SHIPPER | |

Indicate by symbol column provided * how weights were obtained for L. C. L. Shipments only. R—Railroad Warehouse Scale. S- Shipper's Agreement or Tested Weights. E—Estimated—Weigh and Correct.

| DESCRIPTION OF ARTICLES AND MARKS | AUDIT | * | WEIGHT | RATE | FREIGHT | ADVANCES | PREPAID |
|---|---|---|---|---|---|---|---|
| | | | | | | | |

Destination Agent's Freight Bill

Date..............................19.........No. ........................Total To Collect $ .......................................

Station ....................................................................Date ........................................19.........

RECEIVED PAYMENT

...............................................................Agent Per..........................................................

75M - 10 - 30

# THE TEXAS AND PACIFIC MOTOR TRANSPORT COMPANY

Form 478

## DELIVERY RECEIPT

PART 4

| | | | |
|---|---|---|---|
| CAR INITIALS AND NUMBER | **C. O. D.**<br>Amount $ .................. | DATE | WAYBILL No. |
| To Station State | Origin Drayage Payment | From Station State | |
| CONSIGNEE AND ADDRESS | Destination Drayage Payment | FULL NAME OF SHIPPER | |

Indicate by symbol column provided * how weights were obtained for L. C. L. Shipments only. R—Railroad Warehouse Scale. S—Shipper's Agreement or Tested Weights. E—Estimated—Weigh and Correct.

| DESCRIPTION OF ARTICLES AND MARKS | AUDIT | * | WEIGHT | RATE | FREIGHT | ADVANCES | PREPAID |
|---|---|---|---|---|---|---|---|
| | | | | | | | |

Destination Agent's Freight Bill

Date............................19.........No. ........................Total To Collect $ ................. ..........................

RECEIVED IN GOOD ORDER }
FOR ACCOUNT CONSIGNEE } ............................................................ ........................... ............19.........
SIGNATURE

THIS IS A RECEIPT FOR DELIVERY OF FREIGHT AND DOES NOT INDICATE THE PAYMENT OF CHARGES

75M - 10 - 30

Form 478

# THE TEXAS AND PACIFIC MOTOR TRANSPORT COMPANY

## STATION RECORD

## PART 5

| | | | |
|---|---|---|---|
| CAR INITIALS AND NUMBER | **C. O. D.**<br>Amount $ .................. | DATE | WAYBILL No. |
| To Station    State | Origin Drayage Payment | From Station    State | |
| CONSIGNEE AND ADDRESS | Destination Drayage Payment | FULL NAME OF SHIPPER | |

Indicate by symbol column provided * how weights were obtained for L. C. L. Shipments only. R -Railroad Warehouse Scale. S—Shipper's Agreement or Tested Weights. E—Estimated—Weigh and Correct.

| DESCRIPTION OF ARTICLES AND MARKS | AUDIT | * | WEIGHT | RATE | FREIGHT | ADVANCES | PREPAID |
|---|---|---|---|---|---|---|---|
| | | | | | | | |

Destination Agent's Freight Bill

Date............................19........ No. ........................Total To Collect $ ..................................................

RECEIVED IN GOOD ORDER ACCOUNT CONTRACT TRUCK OPERATOR SIGNATURE } ........................................................................19.........

THIS IS A RECEIPT FOR DELIVERY OF FREIGHT AND DOES NOT INDICATE THE PAYMENT OF CHARGES

75M - 10 - 30

# THE TEXAS AND PACIFIC MOTOR TRANSPORT COMPANY

Form 478

## COPY

## PART 6

| | | | |
|---|---|---|---|
| CAR INITIALS AND NUMBER | **C. O. D.**<br>Amount $ ................. | DATE | WAYBILL No. |
| To Station State | Origin Drayage Payment | From Station State | |
| CONSIGNEE AND ADDRESS | Destination Drayage Payment | FULL NAME OF SHIPPER | |

Indicate by symbol column provided * how weights were obtained for L. C. L. Shipments only. R—Railroad Warehouse Scale. S—Shipper's Agreement or Tested Weights. E—Estimated—Weigh and Correct.

| DESCRIPTION OF ARTICLES AND MARKS | AUDIT | * | WEIGHT | RATE | FREIGHT | ADVANCES | PREPAID |
|---|---|---|---|---|---|---|---|
| | | | | | | | |

has stopped, or that traffic has steadily increased.(23) An analytic study of traffic conditions by a Western railroad is in point.(24)

A Comparison of the Volume of Merchandise Traffic Handled by Railroad and Transportation Company with Tonnage handled by Railroad alone for the Corresponding month in the Previous Year, the Latter Being Taken as the Base of Measurement.

| | | | | | |
|---|---|---|---|---|---|
| Rail | Nov. 1929 | Dec. 1929 | Jan. 1930 | Feb. 1930 | March 1931 |
| | 100% | 100% | 100% | 100% | 100% |
| Rail & Trans. Co. | Nov. 1930 | Dec. 1930 | Jan. 1931 | Feb. 1931 | March 1931 |
| | 112% | 125% | 163% | 158% | 181% |

Of the percentage further analysis shows that larger percentage of traffic was handled through the subsidiary company.

| | Nov. 1930 | Dec. 1930 | Jan. 1931 | Feb. 1931 | March 1931 |
|---|---|---|---|---|---|
| Railroad | 41% | 30% | 22% | 17.5% | 19.5% |
| Trans. Co. | 71% | 95% | 140% | 140.5% | 161.5% |
| Rail & Trans. Co. | 112% | 125% | 162% | 158% | 181% |

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(23) Forces, F. R. "Meeting Competition with Equal Service and Rates", Railway Age, May 23, 1931, p. 1043.

Huffman, T. E. "Rail-Truck Service Passes Experimental Stage," Railway Age, Feb. 28, 1931, p. 462.

Motor Transport Section, "M-K-T Recovers Lost Traffic", Railway Age, March 28, 1931. p. 631.

(24) Spokane, Portland, & Seattle Railway.

Not all the traffic handled by the transportation company was from new sources, a portion of it evidently was diverted from the rail merchandise traffic. According to the railroad's estimation, had the express type of service not been offered, the railroad would have handled the following percentage.

| Nov. 1930 | Dec. 1930 | Jan. 1931 | Feb. 1931 | March 1931 |
|---|---|---|---|---|
| 78.5% | 66.5% | 83% | 73.5% | 69.5% |

In other words, the following percentage of traffic handled by the transportation company was taken from the railroad traffic.

| Nov. 1930 | Dec. 1930 | Jan. 1931 | Feb. 1931 | March 1931 |
|---|---|---|---|---|
| 37% | 36.5% | 61% | 56% | 50% |

Strictly speaking, this form of service is merely a modified form of absorption of drayage charges out of the rail rates. Whether this service should be a permanent or just a temporary expedient remains to be seen. However, in so far as the present conditions are concerned, this system has produced real economies in railroad operation. Testimony submitted by most of the railroads before the Interstate Commerce Commission shows that the decline of traffic came so suddenly that it caught the railroads unprepared.(25) Since some fixed structures and buildings can be converted to other uses and there is always a minimum limit in station force below which no further reductions could be made, most railroads are facing the serious problem of dealing with partially used equipment and station forces. Under such circumstances the railroads could handle additional traffic without incurring proportional increase in expenses simply by converting some of the unused equipment and station forces to revenue services. This method helps railroads to regain traffic which is urgently needed.

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(25) Young, L.B., "Store Door Service," Railway Age, Sept. 28,1929, p. 775.

Another reason for adopting the express type of operation is that it is free from the Federal regulation. Trucking service within terminal areas is subject to the supervision of the I.C.C. Railroad spokesmen have stated that store-door service should be granted only at points where truck competition necessitates the service. There is fear that the provision of such service at only defined points would create controversy with the possibility that the service would have to be extended to the railroad's entire system.(26) Under this arrangement the service is flexible enough to meet truck competition without involving any legal disputes. Furthermore, the liberal classification of freight and lenient rules with respect to packing or marking requirements help the railroad to recover lost traffic.(27)

### Settlements between the Railroads and Their Subsidiary Companies in the Express Freight Type of Operation.

There are numerous bases of compensation paid by the subsidiary company in intrastate traffic for the rail line-haul service. These bases vary according to the terms of the contracts between these two agencies. Some pay a certain sum per mile, while others pay according to the percentage of the railroad operating expenses.(28) In interstate commerce, the transportation companies pay the regular railroad tariff rates in order to avoid the criticism of unjust discrimination. The question may arise as to how the subsidiary companies can defray the trucking expenses for interstate traffic, when they pay all of the receipts to the railroads, since the trucking rates are equal to the rail rates, but include store-door service. In answer to this question, the officials of one transportation company testified before the Interstate Commerce Commission that the company can well maintain such service on self-support basis. The company imposes less-than-carload and minimum charges upon the shipments, but turns them over to the railroads as carload traffic and pays the carload rates. The difference, it is said, between the two rates gives sufficient revenue for the operating expenses.(29)

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(26) 182 I.C.C. 339.

(27) Anonymous, "How Can Railways Recover Lost Freight Tarffic, Railway Age, Aug. 22, 1931. p. 294

(28) This topic has been discussed in Chapter II.

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(29) I.C.C. Docket 23400, Testimony of the Southwestern Transportation Company.

# CHAPTER VII

## CO-ORDINATED LINE-HAUL SERVICE (Continued)

### The Use of Interchangeable Equipment for Co-ordinated Service.

One of the most important requirements for co-ordinated service is the necessity of having interchangeable equipment for both rail and motor truck operation, by means of which these two agencies can work much more closely and thus save a great deal of unnecessary handling of individual shipments at the transferring points. The full advantage of co-ordinated service could never be obtained without first solving this practical question: for under the conventional operating method freight had to be taken out from one agency and reloaded to the other at terminals, this is necessarily followed by heavy handling expenses. The introduction of steel L. C. L. containers and trailers in the rail service not only facilitates the freight movement but really unites the rail and motor as one integral service. The rail performs the line-haul service and the motor the terminal; they handle containers rather than the individual shipments as single unit. The two following chapters will discuss various kinds of new services which have been put under experimentation in this country.

### The Origin of the Steel Container.

The use of boxes or containers to facilitate the interchange of freight at transferring points on rail line is by no means a new idea both in England and in this country, its application to the co-ordination of rail and motor service is a recent development. Formerly, the demountable freight car bodies containing freight were extensively used in both England and the United States by early railroads at interchange points where difference in track guage made it impossible to interchange freight cars.(1) In 1910 a proposal was made in Great Britain that this equipment be extended to the rail-motor service, but due to the heavy initial investment required for handling facilities, this plan was rejected by Parliament in 1920.(2) Coincidently, this new idea was conceived by A. H. Smith, then president of the New York Central Railroad, and put into operation to handle L.C.L. freight between Chicago and Cleveland in March 1921. Steel boxes or containers were sent to the shippers' stores for loading of L.C.L. shipments, after being completely loaded, the containers were hauled by trucks to the rail station where they were transferred by mechanical devices on to railroad freight cars. At the destination station the containers were again placed on trucks and delivered to the consignees'. Since then, this practice has been extended to other important commercial centers and followed by other leading railroads. At present, there are four lines operating this type of service, the New York Central, Pennsylvania. Lehigh Valley, and Chicago North-western Railroad.

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(1) Wilson, G.L., Co-ordinated Motor-Rail-Steamship Transportation, Chapter X. p. 113.

### Purposes of the Railroad in Adopting L.C.L. Container

The adoption of L.C.L. container by the railroads is largely due to the inefficient operation of box car service for L.C.L. traffic. In most cases, only a fraction of carrying capacity of freight cars is used in handling that traffic. It is reported that 25% of box cars of the Class I railroads in the country were used to handle less-than-carload traffic which amounted to only 3.3% of the total tonnage.(3) The average tonnage of L.C.L. freight per car from 1924 to 1929, as recorded by an eastern railroad may be given as follows:(4)

| **Year** | **Average tonnage** | | | |
|---|---|---|---|---|
| 1924 | 13,321 | pounds or | 6.6 | tons |
| 1925 | 12,314 | ” | 6 | ” |
| 1926 | 11,789 | ” | 5.9 | ” |
| 1927 | 11,250 | ” | 5.6 | ” |
| 1928 | 10,471 | ” | 5.2 | ” |
| 1929 | 9,360 | ” | 4.7 | ” |

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(2) Ibid, p. 114.

(3) I. C. C. Docket 21723, Record 3245

(4) Ibid, Record 4864.

The uneconomical use of the freight car is largely due to the uneven trend of the L.C.L. traffic flow.(5) According to the experience of a railroad operating officer, about 40% of the L.C.L. traffic at the New York terminal is tendered in the last working hour. Freight of various shapes, sizes, and kinds is brought to the rail station. Since the freight tendered must be loaded immediately in order to clear the platform for late outbound traffic, it is not possible to re-sort and properly load the freight to the best advantage under the rush condition. The idea of using container is to provide a better means for handling L.C.L. traffic.

The facilitation of the door-to-door service is another motive for the adoption of container car service. In 1925, the Pennsylvania Railroad made an investigation on freight traffic covering its whole system, the results show that about 27 million dollars of freight revenue was falling yearly into the hands of motor truck carriers along its line.(5) The controlling factor of this situation was apparently the door-to-door service offered by truck carriers. This is by no means an isolated case, but rather a general phenomenon throughout the country. In facing such serious competition most railroads executives believed that if the rail is to maintain its position in the transportation field, it is necessary to offer a new service which would meet the new traffic conditions. The container car service answers at least a part of this question; shipments can be transported from door-to-door without rehandling at terminals.

It is also the belief of the railroad traffic officials that since the development of motor truck transportation, the division of freight rates into C.L. and L.C.L. is no longer adequate to meet the changing conditions. The truck load is only a fraction of the carload, but truck rates, especially for the short haul traffic, are much lower than the rail L.C.L. rates. To meet this competition the railroad should offer a kind of new service and rate which may avail the shippers enjoying the same privilege.(7)

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(5) Ibid, Testimony of G. C. Woodruff for New York Central Railroad.

(6) Ibid, Record 532. Testimony of J. F. Deasey for Pennsylvania Railroad.

Types of Containers.

There are numerous types of steel containers used by different railroads, each of them has been valued by its sponsor as the most suitable means of meeting the traffic conditions. Generally, they fall into two major types:

1. The lift-off type under which the container is moved by crane facilities from car to truck or vice versa, for instance, the L.C.L. and Keystone containers belong to this class.
2. The Roll-off type under which the body is mounted on casters and can be rolled by manual labor or mechanical means, on and off the truck chassis, freight car, or platform. For instance, the Perin-Walsh and Mount Vernon containers serve as example of this type.

It is perhaps too early to draw any conclusion as to which is superior, only time can answer this question. Generally speaking, each type has its advantages as well as its defects.(8) The lift-off type, according to the operating lines, is more adaptable to the wholesaler movement while the roll-off type accommodates itself to small scale operation. It is true in the lift-off type the cost for installation of crane facilities is heavy, but in the heavy traffic sections with the wholesale movement of containers and the necessity of rapid handling, the saving in terminal expenses by efficient operation of crane facilities can entirely offset the heavy investment. The initial investment for equipment of the roll-off type would be much less than that of the lift-off type, yet labor costs in handling containers on or off the cars runs very high, where the container traffic is heavy. However, from the viewpoint of shippers, the roll-off type is more desirable for store-door delivery service, because it can be moved to any platform where the freight is located. The case for lift-off type is different.

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(7) I. C. C. Docket 23400, Testimony of Thomas Conway, President of the Cincinnati & Lake Erie Railway.

(8) Perin, Donald W., Engineer of Perin Walsh Company, Address in the meeting of the Society of Automotive Engineers, Railway Age, Nov. 27, 1926. p. 1081.

When shippers are not equipped with crane facilities, a container must remain on the waiting truck during time of loading or unloading.(9)

The following table shows the dimensions and loading capacity of different types of containers which have been widely used by various railroads in the country.

Dimentions and Loading Capacity of Different Types of L.C.L. Freight Containers.

| Type | Width | Height | Length | Tare Weight | Loading | Capacity |
|---|---|---|---|---|---|---|
| L.C.L. (inside) | 7 ft | 7′1″ | 7′10″ | 3000 lbs. | 10,000 lbs, | 438 cu. ft. |
| (outside) | 7′2½″ | 8′2½″ | 9′3½″ | | | |
| Keystone (inside) | 8′11″ | 7′11″ | 6′11″ | 3020 lbs. | 12,000 lbs. | 440 cu. ft. |
| Freight-ainer | 6′8½″ | 6′1″ | 7′8″ | 2400 lbs. | | |
| Church | 6′8″ | 6′6″ | 6′ | | 3,000 lbs. | |
| Mount Vernon | 5′7½″ | 7′5$\frac{3}{16}$ | 7′6″ | 1760 lbs. | 10,000 lbs. | 304 cu. ft. |
| Mount Vernon (large) | 7′6″ | 7′5$\frac{3}{16}$ | 9′1½″ | 2280 lbs. | 10,000 lbs. | 493 cu. ft. |
| American Freight Service | 5′ | 7′10″ | 6′1″ | | | |

## Special Features of Different Types of Containers.

L.C.L. and Keystone types of containers.—Both of them are of the lift-off type. Each container is provided with "eyes" at the four corners and lifting straps by means of which they are lifted from car to truck or vice versa. Each container is equipped with close-fitting doors that can be locked by the shippers when it is loaded. In addition to this, the Keystone type provides a controlling lock device,—a hand lever on the outside of the bottom of the container controls the doors. When the lever is put in the position marked "locked" there are certain spuds coming out to prevent the doors from opening. This method is to prevent pilferage enroute, even though the lock is destroyed, no one can open the door unless they lift the container and turn the lever in the other direction. In handling these types of containers, specially devised flat cars are used, of which the sockets on the side hold each container firmly in place. A battery of five Keystone type or six L.C.L. type containers forms a container car.

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(9) Perin, Donald W., Types of Containers, Railway Age, July 27, 1929 p. 315.

Perin-Walsh or Freightainer type.—This is a roll-off type and can be operated on its own casters. They are equipped with double siding doors, which makes it possible to load and unload on either side of the platform. The doors are hung on ball bearings, when closed they are locked by a special flush type lock which positively draws them together and into interlocking angle.(10) By equipping with a standard "Roloff" sub-frame, any type of truck can be used to haul this type of containers.

Church Type.—This type is the smallest one among the containers and is designed as a substitute for the more costly ordinary packing cases. With a loading capacity of only 3,000 pounds and a rolling device, it can be used by any individual shippers without employing consolidators. It is handled by manual labor without the aid of crane facilities. The most significant feature of this container is its refrigerating service for all perishable goods, the refrigerating unit is readily removable so that it can also be employed to handle other L.C.L. freight in case a return load of perishable is not available.(11)

Mount Vernon Type.—This is the latest type of container and has been claimed by its sponsors as the most perfect one among its kind. Since it is made of "Haskelite" plywood instead of steel, the tare weight is greatly reduced. In the demonstration of this equipment, the sponsor said, "all the advantages of the container are here, but excess weight of the container has been done away with and the cumbersomeness of the equipment overcome."(12) This container is of roll-off type, two sets of four wheels are nested on the bottom of the containers either one can be brought into play by pneumatic power from an air hose connected with a pump attached to the engine of the truck. One set is permanently aligned at right angles to the other so that the container can be moved in either direction. In one of the tests the wheels of a loaded container were extended within five seconds. The question of taking containers from car to truck or reverse operation is greatly simplified by the specially devised truck constructed by the International Harvester Company. In addition to certain capstan and air hose, the truck is equipped with an adjustable bed. By raising the bed to the level of the floor of the flat car and pulling the capstan, the container rolls automatically to the truck without the aid of crane facilities. It is said that the time consumed for unloading a container from car to truck and driving a distance of 100 yards takes only three minutes.(13)

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(10) Motor Truck, published by the Automotive Journal Publishing Company, April 1927. p. 6.

(11) Anonymous, "Containes for L.C.L. Shipments of Perishable." Railway Age, Nov. 21, 1931. p. 786.

## Container Cars.

Specially devised cars are used to haul containers. The one in common use is the standard low side gondola car equipped with guides and slots to hold each container firmly in position. The length of car varies according to the total length of a battery of containers Another type is the so-called "drop side" car used by the New York Central Railroad. This car is divided into six sections, each accommodates one container. The side of every section can be dropped down to form a bridge between the side of the car and the adjacent platform to facilitate loading and unloading containers. The special feature of this design is that in addition to the craneaway method of loading and unloading containers, it permits a truckaway method. In doing this a specially devised truck. known as the lifting truck, is employed. Since all the containers are set upon the supporting shelf of the car above the floor about 12 inches, this leaves room for the nose of the truck to enter under the container. As soon as this position is reached, the truck driver can apply the lifting device, which is operated by storage batteries, to move the container out. The reverse operation will be applied to the loading work.

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(12) New Container Equipment, Traffic World, Sept. 26, 1931. p. 674.

(13) Distribution and Warehousing, Dec. 1921. p. 18.

The improvement of the drop side container car is worth emphasizing, because it eliminates many defects of the crane type of container. It has been admitted even among the most enthusiastic advocates of lift-off type of container that crane facilities can be provided only at large stations where the volume of traffic warrants such a heavy initial investment. Thus the container service will be localized at certain important points and will not be extended to small stations along the same line. With this new device containers can be easily handled without the aid of crane facilities. For instance, it is common practice on the New York Central Railroad when the container cars are being switched to small stations where no crane facilities are provided, a lifting truck will be carried on the container car with five containers. In an ordinary case a container car carries six containers, the lifting truck takes the place of one container. In this way it offers many advantages; it is possible to operate mixed trains of box cars and containers. The box cars may be assigned to large stations while containers are used for small stations according to the needs of traffic. The new device also offers a possibility to reduction in the tare weight of the container; under the hoisting method the container must be constructed very strong to hold shipment up to the weight of about 10,000 pounds, inevitably the dead weight is heavy and produces no revenue to the railroad. Under the new method, containers are lifted up from the bottom, so that the dead weight can be reduced to a considerable extent.

Not only is the rail carrier benefited by a saving of a heavy investment in handling appliances, but the shippers and consignees are better served. By using the new type cars container service can be extended to small stations along the line, which are not equipped with crane facilities. In loading and unloading freight into the container at the shipper's or consignee's warehouse, the container can also be moved by the lifting truck and placed to the best advantage, thereby, creating a great saving in labor cost.

Rental of Container.

Strictly speaking, all railroads operating container services do not own but lease such equipment from container manufacturers, although the latter in some cases are controlled in one form or another by the railroad. The term of lease varies according to the relationship between the railroad and the container manufacturer, in case the railroad controls the company, the term will be more liberal, otherwise the rental will be on a strict commercial basis.

Of the former type, the contracts between the New York Central and the L.C.L. Company, and the Pennsylvania Railroad and the Keyston Company will serve as illustrations; both railroads acquired certain interest in the manufacture either by holding a majority of their stocks or through special arrangement. According to their contracts,(14) the railroads agreed to pay a certain amount to the company for constructing and maintaining this equipment, but no rental for the use of the containers or cars. In case the containers are sent out to the connecting lines which have contracts with the container manufacturer, the railroad is responsible for the collection of rental. To those lines which have no contract with the company the railroad should pay one dollar per container per loaded trip.

Other railroads which do not enjoy such a privilege usually pay the L.C.L. Company on a rental basis. For instance, the Lehigh Valley Railroad pays a rental of 2 cents per loaded container car mile and 1 cent per empty car mile.(15) When the container car consists of one or more loaded containers, the whole car is considered as loaded. Monthly reports are prepared by the railroad to show the total mileage of the car movement by the end of every month, and the amount of payment is based on these mileage.

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(14) I.C.C. Docket 21723, Testimony of New York Central and Pennsylvania Railroads.

(15) Ibid, Contract between Lehigh Valley Railroad and L.C.L. Container Company.

Container Car Service.

The most significant feature of the container service is that instead of handling freight at the freight station, all loading and unloading work is performed by shipper and consignee respectively. From the orginating station, empty containers are hauled by trucks to the shipper's place, where containers may remain on the trucks for loading or they may be left there to be called for later on in the day. At destination, containers are hauled to the consignee's place for unloading.

Trucking charges between the rail station and shipper's store are not embraced into the container rates, but are borne by the shipper, (same is true to the consignee). Although the railroad may be entrusted to find a truckman to do this service, it in no case absorbs the expenses involved. Trucking rates vary with different localities; usually they are charged on the net weight of the content and on a round trip basis, allowing the shipper 20 minutes for loading. In certain cases, the railroad may select a number of competent truckmen at various points to perform the trucking service, and publish the trucking rates in the container tariff. Under this arrangement, the railroad may advance the trucking charge to those recognized companies and collect the sum from shippers or consignees. The arangement in the Pennsylvania Railroad container service may serve as an illustration.(16)

| Point | Trucking Agent | Rates for round Trip (2 stops) | Charge for each additional stop |
|---|---|---|---|
| Baltimore | Baltimore Transfer Company | $5.00 | $0.75 |
| East St. Louis | Eilerman Transfer Company | Within the territory bounded by River, on the east; Sidney St., on the south; Jefferson Ave., on the west; North Market St., on the north.........$5.00 | $0.75 |

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(16) Pennsylvania Railroad Circular, "Container Service", 10-3-31, p. 9.

| Point | Trucking Agent | Rates for round Trip (2 stops) | Charge for each additional stop |
|---|---|---|---|
| | | Outside of this territory........$6.00 | $0.75 |
| New York | Motor Hauling Company | 69th St., to Battery St............$5.00 | $0.75 |
| | | 60th St., to 125th St............$7.00 | $0.75 |
| | | 126th St., to 177th St............$9.00 | $0.75 |
| | | To Brooklyn | |
| | | For radius of 2 miles from Brooklyn side of Manhattan and Williamsburg bridge heads..$8.00 | $0.75 |
| | | Radius 2 to 5 miles .............$10.00 | $0.75 |
| Louisville Ky. | A. H. Bowman Company. | 10% per 100 lbs. for contents of containers minimum 4,000 lbs. or $4 per container; Max. charge....... $5.00 | $0.75 |

In handling outbound traffic the shipper is required to lock the doors of the container after it is loaded. He may or may not use his own lock in addition to the lock on the doors. In case he fails to comply with this rule, the railroad may either refuse to accept the container or have its freight agent inspect the contents and then seal the lock.

An informal bill of lading is submitted by the shipper, showing the description and weight of the contents loaded in container, upon which container rates are calculated. When shipments offered are subject to the terms and conditions of the tariffs, a uniform bill of lading is issued covering the container and its whole contents, bearing the indorsements of "shipper's load and count" and "shipper's weight". Unless the railroad freight agent finds some inconsistancies, the shipments are not examined or reweighed at the stations. In case the shippers wish their shipments to be transported at the carrier's risk and not subject to the terms and conditions of the uniform bill of lading, they must pay rates 10% higher than the standard rates.

When the content of the container consists of articles accepted for transportation on shipper's valuation, the shipper is required to declare the value of each container. In case the declared value exceeds the maximum amount set by the tariff, the carrier may either refuse to accept shipment or require certain extra charges in addition to the ordinary container rates. The value declared must be entered upon the bill of lading as follows:(17)

"The agreed or declared value of the property in container No. ....... from ......... to....... is hereby specifically stated by the shipper to be not exceeding $......... per......

.................. "
*(signiture)*

The liability of the railroad carrier for the shipment begins at the time when the container is brought under the crane or to the platform, while it ceases at the moment when the container is placed on the consignee's truck. The carrier will not be responsible for any loss and damage of freight in the container resulting from the improper loading and insufficient packing due to carelessness of shipper or his agent, unless it is due to poor handling of the railroad employes and the lock of seal is broken when the container is delivered to consignee

Rates for Container Service.

During the experimental service between Chicago and Cleveland on the New York Central Railroad in 1921, regular L.C.L. rates were applied to the container service. After one year's operation, the result was not so successful as expected, so the flat mileage basis was introduced to meet the traffic conditions, Briefly, this basis differ widely from the conventional rate basis. It charges rates upon the actual weight of the content of the container and the distance to be transported instead of upon the freight classification. With exception of the minimum rate, the rate per mile increases with additional weight. With a few alterations during succeeding years the rate schedule up to 1929 was as follows:18)

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(17) Pennsylvania Local and Joint Tariff, G.O.-I.C.C. No. 14859

(18) I.C.C. Docket 21723, Testimony of the New York Central Railroad.

| Minimum Weight 4,000 lbs. | Rate per mile |
|---|---|
| 4,000 | 5 cents |
| 4,500 | 5¼ ” |
| 5,000 | 5½ ” |
| 5,500 | 5¾ ” |
| 6,000 | 6 ” |
| 6,500 | 6¼ ” |
| 7,000 | 6½ ” |
| 7,500 | 6¾ ” |
| 8,000 | 7 ” |
| 8,500 | 7¼ ” |
| 9,000 | 7½ ” |
| 9,500 | 7¾ ” |
| 10,000 | 8 ” |

The rates started at 5 cents per mile, when shipments weighed below or up to 4,000 pounds; any additional 500 pound shipment or fraction thereof added ¼ of a cent until the maximum rate of 8 cents per mile reached. A minimum distance was fixed by the railroad at 165 miles.(19) It was based on the principle that the terminal costs do not vary with the length of line-haul. If no minimum distance was prescribed, the rate for short haul traffic would have been insufficient to cover such expenses. From the above requirements two general bases in calculating container rates were provided:

1. When a container load of less than 4,000 pounds was hauled under 165 miles, the charge per container was based upon the rate for minimum weight multiplied by the minimum distance.

2. When the load was over minimum weight and length of haul up by or over 165 miles, the charge was calculated on the total of the rates of actual weight times actual distance.

For illustration, a shipment of 3,500 pounds from New York to Philadelphia (90 miles). The charge would have been the minimum weight of 4,000 lbs times minimum distance 165 miles or $8.25. A shipment of 6,000 pounds from New York to Baltimore (186 miles) would have had a charge of 6 cent × 186 miles equals $11.16.

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(19) Ibid.

Reasons Advocating Flat Mileage Basis.

There are several factors that justified the revolutionized rate basis. In the first place, the flat rate basis met the challenge of motor truck competition. The existing truck rates based on all classification, were relatively high in the low grade goods and low in high grade goods, therefore, most of the freight diverted from rail to highway consisted of high valued commodities. In order to regain a portion of lost traffic, the railroad felt that it was necessary to abandon the conventional classification and give shippers the same advantage as they enjoyed with motor truck service. The mileage basis was another weapon to meet this competitive force. It was admitted by the railroads that the traffic lost to motor truck was largely short haul traffic, varying from 50 to 200 miles, beyond that distance the railroad possessed certain advantages over its competitors. Under the box car service the unit cost was relatively high in the short haul traffic, because terminal charges did not vary with the length of line-haul and had to be absorbed in the line-haul rate. To overcome such a difficulty container rates so constructed that they permitted the railroad offering relatively low rates for short haul traffic, but also provided a minimum distance to cover the terminal charges. the economy of billing cost by handling numerous shipments in the container, as a single unit, constituted another reason for the flat rate basis. No matter how many shipments were loaded in the container there was only one bill of lading and one waybill for each unit. If the conventional practice have been strictly followed, it would have been necessary for the railroad to count and examine every shipment in the container, issuing as many bills as in the merchandise service, thus the economy in expense and time would have been wholly wiped out.

Objections to the Flat Mileage Basis.

The flat mileage basis, so alien to the existing rate practice, encountered many objections on the following grounds:

1. Unduly high for long haul traffic.—In formulating rail freight rates according to the distance scale theory, the tapering scale is generally recognized as a most important principle which should be carefully considered. By tapering scale is meant that the ratio of increase in freight rates does not exactly vary proportionally to the ratio of increase in the length of line-haul. On the contrary, the longer the line-haul, the lower the unit cost per mile. Under the container rate structure the progression of freight rates was in direct proportion to the distance, the following comparison between the freight class and container rates may be quoted as an ilustration:(20)

Rate of Progression According to Distance

| Distance | 165 miles | 200 miles | 300 miles | 400 miles | 500 miles | 800 miles | 900 miles | 1000 miles |
|---|---|---|---|---|---|---|---|---|
| Class rate in C. F. A. Territory | 100% | 109% | 122% | 137% | 163% | 190% | 202% | 213% |
| Container rates | 100% | 120% | 181% | 241% | 363% | 484% | 545% | 605% |

2. Unit cost per 100 pounds varying according to the weight of shipment.-Under this rate basis the unit charge for 100 pounds becomes relatively less as the weight of shipment increases. To illustrate, a shipment of 4,000 pounds to be shipped from New York to Buffalo was charged $21.90 or 54.7 cents per cwt. For the same distance if the weight increased to 10,000 pounds the charge would be $35.94 or 35 cents per cwt.,-a reduction of about 35 per cent in unit charge in comparison with the former case.

In considering the lawfulness of this difference, the Interstate Commerce Commission found that it was unjustifiable to allow such difference in rate when based solely upon the quantity of tonnage offered and not due to the difference in cost or character of the service. To quote:(21)

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(20) I.C.C. Docket 21723, Testimony of the Boston and Maine Railroad.

(21) 173 I.C.C. 435.

> "It appears thus to be universally recognized that the only discrimination which may legally be made between a large shipment and a small one must be based upon the difference in the cost of service. It necessarily follows that when this difference in cost of service is eliminated, the reason for the discrimination entirely fails."

However, this opinion is not unanimously held, in his dissenting report, Commissioner Eastman stated:

> "Difference in cost of transportation inevitably attend difference in loading. This situation is like that which exists in the case of carloading. It is recognized the cost per 100 pounds of freight handled is less when a car is loaded with 100,000 pounds than when it is loaded with 50,000 pounds, in other words, that the unit cost constantly decreases as the car loading increases."(22)

3. Container rates lower than C.L. rates.—In certain cases, the container rates were even lower than C.L. rates for the same commodities. For instance, the fifth class rate from Pittsburgh to Buffalo was 26.5 cents per hundred pounds. The maximum rate prescribed in Iron and Steel articles for the short haul, 231 miles, was 23.5 cents per hundredweight, with minimum weight 40,000 pounds.(23) The same articles weighing 10,000 pounds to be shipped from Pittsburgh to Buffalo in container would have cost only 21.7 cents per 100 pounds. It was contended that there was no reason to justify a container rate lower than the carload rate for the same articles, because both services were in a single unit from one shipper to one consignee. The lower rate was unjust discrimination.

4. Violation of the long and short haul clause.—It was also contended that the container rates violated the long and short haul clause by handling the same amount of freight to equal or longer distance at a rate lower than carload rate. This case happened frequently under the flat mileage scale. By way of illustration, the container rate on 4,000 pounds of first class freight from St. Louis to Dallas was $65.20 while the same amount of freight by box car cost $84.

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(22) 173 I.C.C. 449. Later investigation sheds new light in supporting the dissenting opinion. In Ferry Truck case the record shows that the cost of service does vary with the weight of load. It seems justifiable to modify the former decision to a certain extent, if the operating lines could present accurate data to show such difference.

(23) 155 I.C.C. 517.

This contention was rejected by the Commission on the ground that different services justify the different rates. No one will doubt that the carload rate should be lower than the L.C.L. rate, because of the difference in operating methods and costs of service between these two kinds of freight. The same principle holds true to the container rate, therefore, it could not be construed as violating section 4 of the Act.

5. Destroying the existing rate structure.—The container rate basis was so revolutionary that in many cases it violated the existing rules and adjustments. For instance, according to the consolidated freight classification the mixtures of several classes of goods into one shipment was generally rated at the class applicable to the highest rated article in the shipment and at the total weight of the mixed consignment, whereas the container rate was based on the weight of shipment regardless of the classification. In another case, the rate adjustment was arranged in such a way as to enable the competing areas of production, markets, routes, and ports to stand on an equal footing. Deviating widely from the existing rules, the flat mileage scale of the container rate mixed have upset the whole rail rate structure.

New Rate.

In view of the foregoing objections, the Commission found that the existing container rates were unreasonable, unjustly discriminatory, and unduly prejudicial. Although its service was highly recommendable, a remedial step in the rate arrangement was necessary before both carriers and shippers would derive the full benefits of this service. The new rate basis is a compromise between the conventional and the former container rate and is by no means final. In its report on the container case, the Commission frankly admitted that "because of the fact that container service is......in the initial stage of its development, the findings are necessarily based upon a rather indefinite and incomplete record. It may be that more mature experience with the container and a wider use of the service will warrant some modification of the findings."(24)

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(24) 173 I. C. C. 448.

Briefly speaking, the new basis retains the meritorious points of the rate on net weight of the container, which benefit carrier by reducing billing cost to considerable extent, but at the same time, bears a certain relation to the existing freight classification. This modification is justifiable, as the Commission said:

> "The container as a facility affords sufficient protective qualities and operating advantages to justify a separate and distinctive rate basis which will cover all commodities susceptible of loading therein without rate distinction."(25)

With the same principle which justifies the minimum weight for box car service, the minimum weight for container traffic is necessary to protect a fair loading of this type of equipment. Otherwise, a great portion of the loading space will not be utilized. However, the question of how much the minimum should be is a problem of which the solution is not easy. It should be high enough to insure a fair loading and at the same time low enough to encourage the use of the container by individual shippers. Basing on the past experience the Commission recognized that the minimum weight of 4,000 pounds would be neither too high for any individual shipper nor too low for rail carrier.(26) The new container charge, subject to the minimum weight 4,000 pounds per container, based on the net weight of the contents, will be computed on the basis of the third class rate, provided, however, that in no event shall the container be less than:

1. the contemporaneous carload rate on the highest rated commodity loaded in the container, and
2. one class lower than the any-quantity rate on any commodity loaded in the container which is accorded on any quantity rating in the governing classification.

In case the content of the container consists of commodities higher than the third class, the principle governing the mixed carload will be applied, i.e. the rate applicable to the highest rated commodity loaded in the container will be charged against the entire content of the container.

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(25) 173 I. C. C. 434.

(26) 173 I. C. C. 436.

As to the new rate, some operating lines opposed it on the ground that it will increase the rate for short haul traffic, which is vulnerable to truck competition. The inevitable result of the new rule would be diversion of a portion of short haul traffic from the container service to truck. However, the Commission believed that such a rate basis is low enough to meet the challenge of truck carriers, and that present conditions do not warrant in approving any basis of rate that is lower than third class.

Comparison of Operating Costs.

Upon the request of the Commission, three Eastern lines operating container car service undertook cost studies on both container and box car services within their own area.(27) In that study the L.C.L. traffic moved in the following sections were selected to be under test for a period of 30 days:

1. Traffic handled from New York to Buffalo on the New York Central Railroad, a distance of 438 miles.
2. Traffic handled from New York to Baltimore on the Pennsylvania Railroad, a distance of 186 miles.
3. Traffic handled from Newark to Buffalo on Lehigh Valley Railroad, a distance of 477 miles.

From the actual tonnage of L.C.L. traffic handled by the box car service within the testing period, the railroads eliminated those commodities which are not suitable for container service; the remainder was accepted as tonnage for both services as if it was handled through these two services. Estimates on the operating costs of container service were made upon the past experience against the actual operating costs for box car service. This method of study was objected to by other lines as causing incorrect presentation. However, in view of the fact that those lines have had long experience with the container service, their estimation may not be far off from the truth.

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(27) I. C. C. Docket 21723, Testimony of N. Y. C., P. R. R. and L.V. Railroads.

The following items of operating costs were accepted by the three lines as the common basis for cost study.

1. Freight claim costs.—Which was arrived at by applying to the tonnage under test the unit-ton claim expense reported to the American Railway Association in the year 1928.

2. Clerical costs.—All expenses for issuing of bills of lading and recording of accounts in both station and general office divided by the tonnage handled.

3. Platform costs.—All labor costs for handling of L.C.L. freight divided by the number of shipments and applied to the tonnage tested.

4. The crane costs.—Studying the unit cost per container, then applying the cost to the number of containers necessary to handle the amount of freight.

5. Switching costs.—Based upon the result of a field test of three days. This item was computed on the engine hour basis and in turn applied to the number of cars handled per engine hour to obtain the cost per car separately for the L.C.L. and container operation. This item also included locomotive repairs, crew wages, fuel, lubricants, water, yard-engine house expenses, and yard supplies and expenses.

6. Road haul costs.—this item included those accounts; locomotive repairs, (excluding yard switching) train enginemen wages, fuel for train locomotive, etc. Applied to the gross ton miles of the traffic tested.

7. Car maintenance costs.—based on the amount spent for repair of cars divided by the number of serviceable car days and applied to the number of serviceable car days used in the L.C.L. and container traffic.

The studies revealed two important aspects; the economy of conatiner operation and the insufficient revenue for the container service.

A striking contrast is offered in the tables given on the following pages, showing that the average operating expenses for one ton of L.C.L. freight through the box car service amounted to $7.16, while the same item for container service was but $2.26, approximately one-third of the box car operating expenses. The operating costs for container service on the Pennsylvania Railroad are strikingly low, 93 cents per ton of L.C.L. freight, about one-sixth of the operating costs of the box car service.

Estimated Operating Costs of Box Car Service
(Per ton L.C.L. freight)

| | N.Y.C. | P.R.R. | L.V.R.R. | Average |
|---|---|---|---|---|
| Freight claims | $0.120 | $0.287 | $0.103 | $0.170 |
| Clerical costs | 2.595 | 1.946 | 1.196 | 1.912 |
| Platform costs | 2.270 | 2.310 | 1.571 | 2.050 |
| Crane costs | — | — | — | — |
| Switching costs | 1.850 | 0.565 | 0.774 | 1.063 |
| Road haul costs | 2.230 | 1.157 | 1.761 | 1.716 |
| Car Main—tenance | 0.405 | 0.166 | 0.185 | 0.251 |
| Total | $9.490 | $6.430 | $5.590 | $7.162 |

Estimated Operating Costs of Container Car Service
(Per ton of L.C.L. Freight)

| | N.Y.C.R.R | P.R.R. | L.V.R.R. |
|---|---|---|---|
| Rental | — | — | $1.221 |
| Freight Claim | — | — | — |
| Clerical costs | $0.041 | $0.134 | 0.062 |
| Platform costs | — | — | — |
| Crane costs | 0.096 | 0.083 | — |
| Switching costs | 0.714 | 0.261 | 0.583 |
| Road Haul cost | 1.240 | 0.408 | 1.578 |
| Car Maintenance | 0.149 | 0.044 | 0.106 |
| Total | $2.240 | $0.930 | $3.550 |

It is also interesting to note that in the container service the freight claim and platform costs are entirely eliminated, while these two items represent about 30 per cent of the operating costs in the box car service. The only costs added to the container service is crane cost which amounts to an average of nine cents per ton.

Another point which should be considered is the insufficient earning of container car service under the flat mileage basis. The average net revenue per ton of L.C.L. freight from both services was given by these three lines as follows:

| | N.Y.C. | P.R.R. | L.V.R.R. |
|---|---|---|---|
| Container Service | $6.47 | $4.22 | $5.44 |
| Box Car Service | 4.29 | 4.09 | 7.73 |
| | $2.18 | $0.13 | $2.29 |

By container service the New York Central receives $2.18 and the Pennsylvania Railroad 13 cents, while the Lehigh Valley Railroad loses $2.29 per ton of L.C.L. freight. The gain by the first two lines largely due to the fact that they do not pay rental for the use of containers. If this item enters into calculation, both lines will obtain less revenue.

Substitution for Box Car.

In addition to the regular container service, there are two other types of container services offered; first, container service offered by the consolidating company, second, the railroads use containers in place of box car service. A study of the former will be reserved for the Chapter IX, the latter one may be considered here. It should be noted that this type of service is the regular L.C.L. service, the substitution of containers for box cars does not change the freight rate. In certain cases, the shippers have no knowledge whether their shipments are carried by box cars or containers. This method is extensively used by the Pennsylvania Railroad at the following important points; New York, Trenton, Camden, Philadelphia, Williamsport, Wilmington, Baltimore, Washington, Lanchester, Harrisburg, York, Pittsburgh, Cincinnati, Indiannapolis, Columbus, and Chicago.

Generally, this substitution falls into three distinctive service; local way train, trap car, and L.C.L. train service.

Way train.—In peddling merchandise freight among its substations, a railroad may deposit a number of containers in each station in accordance with the traffic conditions. These containers may be put either on truck chassis or on container cars. after they are loaded, they are hauled to the transfer station for re-sorting in order to form a solid container car.

Under this system there is a possibility of destination loading for L.C.L. traffic, and of reducing the number of handlings as well as the operating costs at transfer stations. Being a smaller unit than the box car, the container is easily loaded to its full capacity for one destination. At the transfer station, each container, if loaded according to destination, will be handled by means of mechanical facilities as a single unit, without rehandling its individual articles. Another advantage of the container is the flexible loading capacity to meet the traffic need. The container car is divided into five or six compartments and can be adapted to suit the traffic condition of each station. The whole car may be assigned to one station, or a battery of five or six containers can be used for as many as five or six stations. This would be impossible under the box car service.

Container for trap car service.—By cooperating with shippers equipped with commercial sidings, a railroad may send containers in place of box cars in the trap car service, and request shippers to load each container on destination order, i.e. shipments to the same point loaded into the same container, if the volume of traffic makes this possible. No additional expenses are created for the shipper by this practice but the railroad saves a great deal of labor at the transferring stations. Even where the destination loading is not possible, the containers may be switched to transfer stations where they can be reloaded according to the destination. thus it will save at least one station handling at the destinated point.

Straight container car service.—Straight container car service, as the railroad terms it, means the substitution of container for box car in the L.C.L. freight service. As stated in the preceding chapter, the railroad expedites the train movement to a considerable extent by using the concentrating point method, the same principle can be applied to this service. The railroad divides each section into a number of zones, within each zone a concentrating point is selected. Outbound L.C.L. freight originating from intermediate stations is loaded into steel containers according to destination loading method, and transferred by truck to the nearest designated bases. There the containers are reclassified to form straight container cars, that is to say each car shall consist of containers for the same destination or to points within the same zone. On the other hand, for the inbound L.C.L. traffic the base is the distributing point, where the containers destined to the base and the intermediate station within the same zone will be unloaded and forwarded by trucks. Through trains make stops only at those concentrating bases to take up or discharge containers. A typical case in the New York Central Railroad may serve as an illustration. In the Mohawk Division of that line the straight container service was worked out by establishing three bases, namely, Utica, Amsterdam, and Albany. L.C.L. traffic from intermediate stations handled by containers was hauled to the bases by the following method. Trucking westbound to Utica for a distance of 30 miles east of Utica, and trucking westbound to Amsterdam for a distance up to 30 miles west of Amsterdam. Through trains make stops only at these three bases to pick-up and unloaded containers.

The significant feature of this service is to expedite train movement by elimination of a number of unnecessary stops at the intermediate points. Formerly, the fastest rail L.C.L. service between New York City and the Mohawk Division was second morning delivery, due to the numerous rehandlings at transfer stations faster delivery was not possible, while between the same points the trucking concerns offer an overnight delivery. Therefore, a large portion of L.C.L. freight was diverted to the trucking service. Through the straight container method, the New York Central Railroad is able to offer an equally speedy service between New Yore City and small stations in the Mohawk Division, and regain a great portion of traffic which had been lost to the trucking companies.

### Traffic Transported.

Most of the traffic handled in L.C.L. containers is high classed freight. Owing to the special rate structure, the higher the grade of commodity shipped in the container, the greater will be the saving in the freight charges. There are certain commodities, for instance, cigar and tobacco, canned food, drugs and chemical elements silk, rugs, newspapers and magazine, radio and electric appliances, etc., which are often shipped by container service. However, the average class of the container load is somewhat around the second class. An investigation at seven stations along the Pennsylvania Railroad reveals the following results:(28)

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Baltimore | 72.9% | of | container | load | is | 2nd | class |
| Buffalo | 78.6% | " | " | " | " | " | " |
| Cleveland | 87.4% | " | " | " | " | " | " |
| New York | 79.7% | " | " | " | " | " | " |
| Philadelphia | 70.9% | " | " | " | " | " | " |
| Pittsburgh | 44.5% | " | " | " | " | " | " |
| South Kearney | 63.5% | " | " | " | " | " | " |
| Average | 71.0% | " | " | " | " | " | " |

Household goods can also be handled satisfactorily in specially devised containers. In recent years this kind of traffic has been diverted from rail to truck to a considerable extent, due to the inefficiency in rail handling. In the opinion of expert warehousemen the container service can offer not only equal but better service than the truck carriers.(29) Furniture can be loaded into container at the warehouse and unloaded at the other end without rehandling en route. Since it is loaded in steel boxes, excessive jolting and jarring in the motion are entirely eliminated, this is usually the disad vantage of truck handling. Moreover, the cost of operation by rail is much lower than that of the truck, especially in long distance hauls.

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(28) I.C.C. Docket 21723, Testimony of the Pennsylvania Railroad.

(29) I.C.C. Docket 23400, record 5484. Testimony of the National Furniture Warehouse Association, Chicago.

The range for container traffic has been widened from time to time as improvement has been made in the mechanical side of the container. An experiment was jointly made by the New York Central and Lehigh Valley railroads in extending the L.C.L. container to the perishable goods. In November, 1931, a shipment of 800 pounds of fish was handled by container from New York City to Rochester on the Lehigh Railroad, and thence over the New York Central for delivery to a consignee at Syracuse.(30) By putting a certain quantity of carbon dioxide in the container, the temperature could be kept below 18 degrees Fahrenheit throughout the journey. At certain filling stations the container should be recharged with refrigerant. The future of this kind of service is yet to be seen, if it could be conducted successfully, the restoration of certain perishable goods, such as fruits and vegetables, to the railroad would be certain.

Advantages to the Rail Carrier

1. Using Terminal Facilities More Extensively.- The vitally important contribution of the container car service is that it offers greater utilization of existing terminal facilities. The acquisition of more space and additional facilities in meeting the increasing traffic demand is always a difficult problem for the railroad, this is particularly true in the large centers of population where the extension of terminal facilities within restricted areas is almost impossible. The container system obviates all platform handlings and a part of the complicated switching necessary in terminal districts, thus, enabling the railroad to handle larger volume of traffic without resorting to additional equipment.

2. Using the rolling stock more efficiently.- Under the container system all rolling stock can be used more efficiently than under the box car service due to the expedition in loading and unloading and the elimination of unnecessary switchings. It was reported by one of the operating lines that the daily service car mileage per car increases steadily in container car service.(31) In August

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(30) Anonymous, "Container for L.C.C. Shipments of Perishable", Railway age, Nov. 21, 1931. p. 786.

(31) I.C.C. Docket 21723, record 538.

1928 the container cars operated on an average of 56.4 miles. per car per day, in December 1928, this was increased to 86.3 miles. During the same period the daily mileage of all cars on the same lines, irrespective of the class of service to which they are devoted, amounted from but 20 to 25 miles per car per day. The ratio of empty mileage to loaded mileage of the container car service reflects even better showing, in August 1928, to December 1928 the ratio was reduced from 9.7% to 3.4%, while the ratio of empty mileage of all cars on the same line ranges from 35% to 39%.

3. Eliminating unnecessary handlings at transferring point. Under the container operation at least four handlings are eliminated for instance; they are:

1. Unloading shipments from shipper's wagon to freight platform.
2. Loading freight into freight car at the originating point.
3. Unloading freight from car to platform at destination station.
4. Loading shipment into the consignee's wagon.

This calculation applies only to direct movement from original point to destination; in case the freight should be consolidated at transfer station, there are at least two additional handlings saved at every transfer point. This elimination of handlings results in drastic reductions in time and expenses.

4. Eliminating loss and damage to L.C.L. traffic. Closely related to the former one is the elimination of loss and damage to L.C.L. traffic. This question has been vitally important to the railroad operation, as the Commission observed:(32)

> The waste brought about by loss and damage in transit and the seriousness of the problem is increasing rather than decreasing. Anything that can be done to reduce such loss and damage is manifestly in the interest of carrier and public alike.

The successful demonstration of the container service in eliminating such waste is indisputable; during the hearing before the Commission, several shippers testified that in a period of six years they had never filed a single loss and damage claim on the freight handled by container service. This striking success is attributable to the special design of L.C.L. container and its operating method. It is clear enough that there is slight chance for pilferage or damage to shipments loaded in the steel container with double locking devices; moreover, shipments are better loaded and handled under the supervision of shippers and consignees.

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(32) 57 I.C.C. 308.

5. Reducing billing costs.- The reduction of billing costs is another point of merit. Under the regular L.C.L. service, a box car consists of as many as 40 or more shipments, the average weight varying from 200 to 300 pounds.(33) The case for container car service is different; since the container load is destined to one station, from one shipper to one consignee, the railroad issues only one way bill and one bill of lading to cover it. In other words six bills of lading and six waybills are required for a carload of L.C.L. shipments instead of issuing 40 copies of each in the box car service.

Advantages to Shippers

From the shipper's point of view, the container car service is the ideal means for handling L.C.L. traffic. The following statement made by the Syracuse Chamber of Commerce may represent the general opinion of the shippers and consignees:(34)

> "We have seen this service growing, until at the present time practically every concern is using container car service either through direct use or through consolidation offered by the carloading company. Broadly speaking, we think the container car service is a distinctive and progressive step forward in the handling of L.C.L. merchandise shipments. It is the only marked improvement in the transportation of L.C.L. shipments that produces satisfactory results both to the carrier and the shipper."

Numerous advantages resulting from container car service may be summarized as follows:

1. Saving in packing.—The saving in the expenses of preparing the consignments for shipping amounts to a substantial figure through the container service. Since all shipments are loaded into the steel container, it is unnecessary to pack them in strong crates as required by

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(33) I.C.C. Docket 21723, record 4867.

(34) Ibid., testified by the Syracuse Chamber of Commerce.

the Consolidated Freight Classifications. Therefore, all expenses and labor incurred for packing, marking, stenciling are eliminated. This elimination is especially favorable to the retailing business, shipments received at distributing point can be reshipped in containers to their final destination in the original package.

The elimination of heavy packages benefits the consignee as well. Many large departmental stores receive thousands of parcels every day; in order to make more working space, it is necessary to dispose of those used boxes as soon as the merchandise is taken out. For instance, a large department store in New York City maintains a special division in charge of the disposition of those packages from the incoming freight,(35) where two incinerators, each 8 ft. in width and 12 ft. in length, are provided to burn up the wasteful crates. Since this store has been using the container service, the work of the division has been drastically reduced.

2. Saving in transportation costs.—Substantial saving in transportation costs can be effected through the container service. Freight charges based upon the net weight of the shipments rather than on the gross weight which includes heavy crates, besides, the container rates are much lower than the L.C.L. rates. Typical illustrations of the economy in freight charges that can be effected by the container service are shown below:(36)

Between Philadelphia, Pa., and Baltimore, Md.

| | **L. C. L. rates** | **Container rates** | | **Saving** |
|---|---|---|---|---|
| **Commodities** | **per 100 lbs.** | **per 100 lbs.** | **Minimum Wt.** | **in cents** |
| Drugs, other than liquid | 44cents | 34cents | 4,000 lbs. | 10 cents per cwt. |
| Advertising matters, printed | 44cents | 34cents | 4,000 lbs. | 10 cents cwt. |
| Radios, box type | 55cents | 34cents | 4,000 lbs. | 21 cents cwt. |

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(35) I.C.C. Docket 21723, record 577.

(36) Container Service, a circular of the P.R.R. Oct. 3, 1931.

The trucking charges from the shipper's store to the railroad station are also reduced through the handling of consolidated consignments in a steel box rather than small individual packages.

3. Expediting freight movement.—Container service can be relied upon to provide a more expeditious movement for goods than is possible in the merchandise service. By the latter method much time is wasted in handling shipments at transfer point while the container furnishes door-to-door service. As one witness in the hearing said, "container service is as regular as clock work; our salesmen can promise the customer when the shipment will be delivered at his place."

4. Keeping small inventory.—The container service offers an effective means in carrying out the hand-to-mouth buying policy. In recent years the general tendency towards the small inventory has been evident. Every store tries to keep its stock at such a level as will be sufficient to meet the immediate demand; orders for reinforcements are sent out only as late as the stock is going. to be exhausted. In this way working capital can be turned over much more quickly than in the former systems Owing to its expeditious service and low rates, the container service can be used to serve this purpose.

## Disadvantages of the Container Service

So much for the advantages of this service; now we may turn to the other side of the question. What are its defects? The following objections have been frequently voiced by many rail carriers:

1. Heavy initial expenses.—In performing this new service, tremendous expenditures should be made to provide special equipment. It is estimated by the railroad that the initial expenses for constructing an electric crane amounts to at least $20,000, not to mention the additional trackage.(37) A container car with six steel containers

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(37) I.C.C. Dockt 21723, record 4881.

costs about $3,920 as against $2,000 for an ordinary box car. Incidentally, the maintenance costs of trackage, crane, and other facilities necessary in handling containers are also increased.(38)

2. Heavy tare weight.—The ratio for dead weight to the maximum loading capacity is almost 3:1; for instance, the tare weight of each container amounts to 3,000 lbs., while its loading capacity is 10,000 lbs. The proportion would be still higher, if we take actual loading into consideration; it is reported that the average of loaded containers per car is less than three. However, this defect is not insurmountable; the suggestion that aluminum alloy should be used in construction can partially solve this problem. This method has been tried by the Scotish railroad with considerable success.(39)

3. Limited size.—Owing to its limited size, the container cannot handle all kinds of shipments; certain articles are barred from this service. No matter how extensively the container service is operated, the railroad has to maintain L.C.L. freight to take care of those articles left by the container car service. This tends to divert the high classed goods to Containers and leave the low grade goods the box car service. During the declining trend of L.C.L. traffic, this diversion would cut down the freight revenue of box car service and makes its operation more unfavorable.

4. Not suitable for unbalanced traffic,—Unlike the box car which can handle both C.L. and L.C.L. freight, the container is limited to certain kind of L.C.L. freight. In certain territory where the flow of L.C.L. freight is unbalanced, i.e., heavy in one direction and light in the other, if the container service is adopted, the inevitable result will be an empty movement in one direction due to the lack of return load. The traffic condition in Western territory offers the best example. In one of the trunk

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(38) R.M. Cummingham, "L.C.L. Container", Harvard Business Review, April 1930 p. 329. The calculation is as that $320 per container and $2,000 for the container car.

(39) Modern Transport, July 12, 1930.

lines, the daily movement of L.C.L. traffic for southbound ranges from 2,425 to 7,730 pounds, while traffic for northbound from 32 to 2,612 pounds, Under this condition, the operation of container service would be unprofitable.

Certain disadvantages of the container service prevent the shipper from using the new service. The minimum weight per container is too high for the average shipper, as surveyed by the N.Y.C. line that only 400 out of 18,000 potential L.C.L. shippers in New York City can furnish a unit shipment to one destination at one time weighing up to or more than 4,000 pounds. Thus, the average shipper cannot use the container service without the aid of the consolidating company. Since the container rates do not include the trucking expense from the station to the store at both ends, the total expense, both container rate and drayage charge, will be higher than the trucking rate for the same amount of freight over the same distance. Some shippers complain that the container service cannot meet the business demand because it does not provide overnight delivery as the trucking service.

# CHAPTER VIII

## CO-ORDINATED RAIL-MOTOR LINE-HAUL FREIGHT SERVICE (Continued)

### Bulk Container Service.

Although the primary purpose of installing the container service is to solve the problem of L.C.L. traffic, nevertheless, the same method has been applied with equal success in handling certain kinds of bulky commodities, such as brick, lime, and other construction materials. Its basic idea is to eliminate all unnecessary handlings at the transferring points and the substitution of the mechanical force for manual labor. Generally speaking, the construction of the bulk container differs from the L.C.L. container in that its size is approximately one-half of the L.C.L. container and its doors are placed on top and bottom rather than on the side of the container. Among various designs, the brick containers which are 4 feet, 1 inch in width; 7 feet, 4¾ inches in height; and 6 feet, 11¾ inches in length, are extensively used by the New York Central Railroad, and by the New York, New Haven and Hartford Railroad. These dimensions render the container equal in loading capacity to a truck load.(1) Special devices are provided to handle particular commodities, for instance, in handling lime, cement, sand and other like commodities, the top and bottom doors are made of waterproof materials in order to prevent the lading from leaking out and being damaged. With some minor alterations the standard low side gondola car which is 47 feet in length, 9 feet, 3½ inches in width, can be used to hold a battery of 12 containers.

### Bulk Container Rates.

Since the use of containers is simply a substitution for box car, no special rates for bulk containers car service are prescribed by the operating lines. Shipments by the container are charged according to freight classification just as for ordinary box car service. The only difference which deserves mention is the sliding scale on brick.

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(1) I.C.C. Docket 21723, Testimony of G.C. Woodruff for N.Y.C.R.R.

traffic in order to encourage shippers using the full capacity of the containers. Certain kinds of allowances are made as follows:(2)

| | actual wt. | rate charged | allowance |
|---|---|---|---|
| When 12 containers loaded | 132,000 lbs. | 130,000 | 2,000 lbs. |
| ,, 11 ,, ,, | 121,000 ,, | 120,000 | 1,000 ,, |
| ,, 10 ,, ,, | 110,000 ,, | 110,000 | no allowance |

From the standpoint of railroads this scale is necessary, because twelve containers form a carload, any number below this would have a portion of capacity unused. Besides, one or two empty containers must also be put into the car in order to make a compact load. There is very little differences in cost to the railroad in making the necessary crane movements. This sliding scale may induce shippers to use the loading capacity of containers as fully as possible.

Operation.

The noteworthy point in the bulk container operation is the elimination of all unnecessary manual labor. All the loading and unloading operations are performed with mechanical facilities. Consequently, the labor cost is reduced to a minimum. The movement of certain bulky commodities by the container service on the New York Central Railroad can be used as an illustration. In handling the lime traffic the labor cost is unusually high owing to the health hazard of that job. Sometimes the wages amount to one dollar per ton at both ends. By the container service the lime is loaded at the kiln through a spout, eliminating the manual shoveling. The same is true of brick traffic. In describing the performance of container service, one railroad officer said:

> "No human hand touches the brick after the kiln is set up as the bricks are automatically taken off, generally by a skip, counted, transported to a container and put in a container." (3)

At the rail stations Gantry cranes and overhead electric cranes are provided to handle containers from car to truck or vice versa. At large freight stations it is the general practice to employ the Gantry crane, which can be moved around on its own power, thereby eliminating car spotting. At the smaller stations overhead cranes are used and the container cars must be spotted within the reach of the crane. As soon as the loaded containers are sent to rail station, they are immediately transferred to the waiting flat cars and moved on scheduled trains for an overnight delivery service. At the destination the lading of container is unloaded by the "dump-out" method. Briefly this method is as follows: the containers are lifted by electric crane from the freight car and suspended above the waiting truck about one foot. The controlling chains on the side of the container are then released and the load slides down gently to the truck without damage. The whole operation from unloading the shipment to putting back the empty container on the flat car takes only two minutes as testified by the New York Central Railroad. There are six stations in Greater New York area assigned to handle brick containers service. One of these is equipped with three parallel tracks having a total capacity of 38 cars and served by electric crane. The operation is so efficient that 76 brick container cars can be unloaded within a day.(4) The average crane movement costs are about 10 cents per ton, while the labor costs under the former method are ten times as great.

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(2) Ibid.

(3) Woodruff, G.C., Freight Container Service, address before Traffic Club of New York, March 25, 1930, Pamphlet, p. 17.

### Creating New Traffic.

The operation of bulk containers is so successful that many railroads have attained a considerable amount of new traffic which was formerly handled by other transportation agencies. For instance, prior to the adoption of container service there was practically no brick traffic moving from Machanicville, N.Y. to Boston over the Boston and Maine Railroad. Since introducing this new type of service, the brick traffic runs as high as 100 cars per week in that section. Similar gains are shown by the New York Central line.(5) Many brick kilns are located on the banks of the Hudson River, yet the railroad could not get the business from them because of the keen water competition, only a small portion of the traffic was handled by railroad in winter time when the river was closed to navigation. About 90% of the brick traffic in that area was handled by the barge line. After applying the container system to bulky goods the railroad turned the table on the waterway and handled about 90% of the brick traffic. The following table demonstrates the steady progress in brick traffic handled by the West Shore Railroad,(6) which is part of the New York Central Railroad System. It is interesting to note that the tonnage increased from 69,130,591 pounds in 1924 to 1,095,037,850 pounds in 1928, and revenue from $49,135 to $582,869 in the same period; in other words, an increase of 13 times in tonnage and 12 times in revenue.

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(4) Proceedings of American Association of Railroad Superintendents, 1928, p. 269, Address by G. H. Wilson, representative of New York Central Railroad.

(5) Hoppe, William I., "Containers for Bulk Freight," Railway Age, March 24, 1928, P. 715.

West Shore Railroad (N. Y. C. RR lessee)
Brick Container Car Service

| | No. of loaded cars | Weight | | | Revenue |
|---|---|---|---|---|---|
| 1923 (2 months) | 3 | 390,00 | lbs. | $ | 273.00 |
| 1924 | 619 | 69,130,591 | ,, | | 49,135 50 |
| 1925 | 2,312 | 265,111,029 | ,, | | 207,306.29 |
| 1926 | 4,468 | 579,540,960 | ,, | | 390,381.71 |
| 1927 | 7,489 | 951,424,540 | ,, | | 634,237.52 |
| 1928 | 8,416 | 1,095,027,850 | ,, | | 582,869.25 |
| Total | 23,307 | 2,960,634,970 | lbs. | $ | 1,864,203.27 |

In addition to the attraction of new traffic to the railroad, the container service makes heavier loading possible. It has been testified by a witness for a railroad in the hearing before the Commission that in handling bulky commodities, such as lime, brick, cement, ore, etc., a box car can be best loaded, on an average, up to 20 tons,(7) due to the fact that there must be some room left for laborers to get in and to the loading or unloading work. Therefore a portion of the loading capacity of the box car is left unused. No such difficulty exists with the container, shipment being loaded through the top door and unloaded by the dump-out method; therefore, the full capacity can be used. On the average, 12 containers, each containing a load of about 5½ tons result in a carload of 66 tons as contrasted with a load of only 20 tons.

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(6) I.C.C. Docket No. 21723, Exhibit No. 6, p.l.

(7) I.C.C. Docket 21723, testimony of N.Y.C. R.R.

### Benefit to Shipper

To some shippers and consignees, for instance the brick producer and the building contractors, the bulk container service has become a valuable aid to their business. Due to the slow movement of box car service, the brick plants in the New York area formerly had to store a certain amount of their products during the winter time in order to meet the active demand during the next construction season. By the introduction of container service this practice was eliminated and a great amount of storage expense was saved, because orders now can be filled up by overnight service. To the building contractors, the saving in trucking and labor costs by means of container service amounts to a large sum. When shipments arrive at the freight station the contents of the container are handled by mechanical facilities, unloaded into the waiting truck, and are hauled direct to the place of job within a short time. Formerly, the unit trucking cost was very high, for most of the contracted time of the truck was wasted in waiting for loading and unloading. Under the new method the truck can do thrice the work in the same working time. Another advantage effected by this service is the elimination of packing and crating; this results in a saving not only of the packing charges but also in the freight rates as packing increased the weight up to about 17%.

### Railwagon System.

Closely affiliated with the L.C.L. merchandise container service is the Bonner Railwagon service a new equipment named after its designer, J. C. Bonner. Although this system is not so extensively used by the railroads as the containers, its distinctive merits deserve a place in this chapter. Up to the present only one electric railway has adopted this new equipment, the Cincinnati & Lake Shore Railway. Judging by the popularity of these two methods, one may easily draw the conclusion that the container system is superior to the other. However, it is claimed by its sponsor(8) that in addition to all advantages of the container system, the railwagon can be loaded and unloaded from the rail cars without the aid of gantry crane facilities, thereby saving the railroad from a heavy investment in those facilities.

The development of the railwagon system is much earlier than that of the container. In 1898 J. C. Bonner, a railroad operating officer, found out that the existing method of the railroad terminal operation was far from perfect, and that the problem became intensified as the volume of traffic increased. With the hope of overcoming defects, he devised the first type of railwagons. Its construction was similar to that of an ordinary wagon, with loading capacity varying from 5 to 20 tons. The only difference being that it did not have cross axles so that it was possible to mount it flatly on the gondola cars. Before the advent of the motor vehicle, the wagon was to be drawn by horses in the terminal operation. L. C. L. freight was loaded at the shipper's store and drawn by horse to the railroad terminal. There the loaded wagon was mounted on specially designed cars without dealing with the individual shipment. At the other end of the railroad line haul the wagons were detached from the car and delivered to the consignees' door.

In 1928, the second series of railwagons, constructed by the American Car and Foundary Company at Cleveland, was again bought into experiment. The railwagon is constructed of steel and equipped with rubber tires. Various types of railwagon have been devised to handle particular kinds of traffic; for instance, the oil, dairy, refrigerator, etc.

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(8) I.C.C. Docket 23400, Vol. 29, p. 6080, testimony of J. C. Bonner for Bonner Railwagon System Inc., N.Y.

The operation of loading and unloading wagons is an innovation. In transferring the wagons from highway to railcars, or vice versa(9) only a simple "rail ramp" located at the railheads is necessary. Without going into technical details we may describe a rail ramp as an ordinary truck runway, made of wood, stone, or concrete. It parallels the rail tracks on both sides and gradually rising from both ends, it forms a sloping block above the rail track at a certain height, permitting the railwagon to drop on the railcar. Its edges are flanged so that the wheels of the wagon are kept in alignment with the rail track. In loading operation, the wagons are driven by motor tractor resting on the higher position of the ramp and detached from the tractor. A locomotive pushes the flat car toward the rail head where the wagon rests. When a certain position is reached, the wagons are connected with the flat car by means of iron chains. Then the locomotive moves the flat car toward the rail head and draws the wagons towards the sloping ramp. Since both ends of the ramp are declining downward, the wagons roll down automatically on top of the flat car. It is said, according to the inventor, that a train of 300 railwagons can be spotted within 15 minutes.

On arrival at its destination, the flat car is run between the railramp. As soon as the wheels of the wagon touch the higher part of the ramp, the wagon will be lifted from the flat car and rest on it. If store-door delivery is necessary the truck driver will attach tractors to the railwagons and pull them from the railramp to the warehouse of the traders.

In performing the line haul service, specially devised flat cars are required to carry such wagons. Differing from the ordinary design, the journal boxes of the flat car are put inside the wheels rather than outside; permitting the wheels of the wagon to utilize the space formerly taken up by the journal boxes, such an alteration does not change the standard width of the electric railway equipments.

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(9) Ibid

The railwagons used by the electric line are of a large type, 18 feet in length, 7 feet 6 inches in width and 7 feet 7 inches in height. Such dimensions conform fully with the Ohio State highway regulations in regard to the construction of motor vehicles. As to the loading capacity, a wagon car offers more space than the ordinary electric cars. Since three wagons form a car, each of them has a loading capacity of 1150 cubic feet, the total space for loading will be 3,450 cubic feet, approximately 50% greater than the average capacity of railway cars.

The experimental railwagon service has been adapted between Toledo, Ohio, and Cleveland, Ohio, on the Lake Shore Railway since 1928. Six wagons at first, three for each direction, were used between designated points. Now the service is also available for the following points: Cincinnati, Detroit, New Castle, Akron. Massilon and all through the northern Ohio territory. Store-door service is provided by the railway, by contracting with local trucking companies. Besides, using the electric Railway Freight Company, and L.C.L. freight consolidating company, as its agent, the railway may receive L.C.L. freight from several shippers and consolidate them into a wagon load. Three wagons can be loaded on a flat car with a maximum loading capacity of 30 tons.

The rates for the railwagon service apply to all classifications, i.e. rates vary according to the weight of the contents of the wagon.(10) The minimum weight of a wagon is set at 8,000 pounds, and the minimum rate per wagon, $24.40, this including store collection and delivery. Any additional weight above the minimum will be charged at 13% per cwt. When the content of the wagon reaches its maximum, 20,000 lbs., the average rate per 100 pounds will be 20 cents.

Truck Body Service.

The truck body, a kind of steel or wooden box, constitutes another form of container which is interchanged between the rail and motor cars. Although its dimensions and loading capacity vary widely on different railroads, generally, three truck bodies form a car load, with a loading capacity of 30 to 45 tons. On the eastern railroads truck bodies handled in this service must conform to the following dimensions:

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(10) I.C.C. Docket 23400, Testimony of the Cincinnati and Lake Shore Railway.

| **Length** | **Width** | **Height** |
|---|---|---|
| 15 ft. or less | 8 ft. 6 in. | 9 ft. |
| 15 ft. to 20 ft. | 8 ft. 6 in. | 9 ft. |
| 20 ft. to 25 ft. | 8 ft. 6 in. | 9 ft. |

In addition to this, locking devices on the door and the lifting devices on the upper part of the body are also required in order to protect the lading and to facilitate the transfer from car to truck. Specially devised flat cars are used in hauling such truck bodies, on which a certain number of projecting pins are provided to hold the bodies tightly and prevent violent shaking and jiggling, en route. All shipments by truck body service are handled on "shippers weight, load and count," thus the door-to-door service may be performed without rehandling the contents at the rail stations. The operation of such service may be briefly stated as follows: after loaded and locked by the shipper at his place, the truck body will be hauled by truck to the rail station, where it will be transferred by means of crane facilities from truck to car. At the destination reverse movement is applied and the truck body will be delivered to the consignee's store. The underlying principle of the truck body service is to use the best service of each agency in a co-ordinated performance. It is generally admitted that the railroad is superior in line-haul movement while the truck is better for terminal operation. Through the interchangeable equipment between these two transportation agencies, the railroad is relieved of a portion of the terminal operation and the truck of a portion of the line-haul movement, thus better service at a lower rate can be obtained. On this service most railroads pin the hope of co-ordinated rail and truck service. For instance, in announcing the inauguration of this new service the Pennsylvania Railroad made the following optimistic remarks:(11)

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(11) Information for the Public, issued by Pennsylvania Railroad, April 16, 1931.

> "The truck is at its best in congested terminal areas or for comparatively short hauls in the open country, the railroad affords a faster and cheaper means of transport on the long haul. The combination, therefore, of the two forms of transport, each in the field in which it is best adapted, is in the opinion of the Pennsylvania management, bound to result in lower cost to the public, faster schedules and greater flexibility and elasticity in the complete co-ordinated service rendered."

Although the truck body service is closely related to the L.C.L. container car service, the motive of rail carrier in adopting it is by no means the same. In the container service the railroad intends to establish a middle means between the L.C.L. and C.L. so that the smaller shippers may handle L.C.L. lots at a lower rate. The primary purpose of the truck body service is to offer a better means of uniting the rail and motor carriers. Because of its large loading capacity, the truck body service will be used more by the truck carrier or consolidating company than by individual shippers. Under a special rate arrangement, it would be more economical for the truck carrier to leave the line-haul movement to the rail carrier than to perform such service by itself. Thus, a great portion of L.C.L. traffic which is now handled by truck carrier in inter-city movement, will be restored to the rail carrier.

Another difference between these two systems is that the truck body is furnished by the shipper or shipper's agent, while the container is supplied by the rail carrier. This has been considered as the strong point of the truck body service because no initial investment in equipment is required to install such service. In certain cases, the railroad may own truck bodies and rent them to the local trucking companies at an agreed amount per unit per month,(12) the latter is usually the agent of the railroad in performing the store-door delivery within terminal areas. When shippers want to transport freight by means of truck bodies, they may inform the freight agent of the railroad that a certain number of empty bodies should be sent to their store. Upon this the freight agent, in turn, informs the trucking company to furnish the equipment to the shippers. In other instances, the trucking company, performing a similar function to that of the freight consolidator, may collect shipments from different shippers into a truck body load and entrust the railroad with the performance of the line-haul service. At the destination, the truck load will be distributed to individual consignees.

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(12) The Cincinnati & Lake Erie Railroad, Docket 23400, record 5695.

Crane facilities for transferring truck body from truck to rail cars may be provided either by the operating railrood or by its contractor trucking company. In the latter case, upon approval of the railroad, the truck carrier may construct crane gantries at his own expense at the rail stations where the truck body service is rendered. In compensating for such transferring service the railroad agrees to pay a certain amount per truck body as the handling charge. For instance, the Cincinnati & Lake Erie Railway pays 25 cents per truck body interchanging between car and truck to its contractor, the Motor Terminals Company.(13)

Certain articles are barred from the truck body service either due to their natural character or high value unfit for such handling. For instance, on the tariff of Cincinnati & Lake Erie Railway three lists show the restricted articles as follows:(14)

List A. Commodities, such as perishable, explosive, or dangerous articles, fresh flowers, and compressed yeast, etc., should be excluded from the service.

List B. Liquid liable to freezing should be excluded between October 15 and April 15.

List C. Articles of extraordinary value, such as money, valuable papers, precious metals, etc., should not be placed in the box.

In conformity with such a rule the shipper is required to certify on the bill of lading that the contents of the box are not contrary to restrictions.

In order to secure the prompt collection of truck bodies from the railroad premise, certain demurrage charges are imposed on consignees who fail to unload the freight cars loaded truck bodies within the free time (24 hours) or fail to call for the truck body at the station. For instance, on the Pennsylvania Railroad a charge of $2.00 per truck body per day will be imposed, if the truck body remains in the station over the free time.(15)

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(13) I.C.C. Docket 23400, Vol. 20
(14) Traffic World, Nov. 14, 1931, p. 1076

Truck Body Rates.

The important feature of this service which affords the possibility of diverting a portion of truck traffic to the railroad is its special rate structure. In view of the fact that the new service differs materially from the box car service, its rates also differ widely. Generally speaking, the rail carrier considers the truck body as a kind of commodity whose rate varies with its dimensions, regardless of its contents, or whether it is loaded or empty. The following rates applied between Baltimore, Md., and Salisbury, Md. on the Pennsylvania Railroad, may be used to illustrate this:(16)

| Length | Width | Height | Charge per truck body |
|---|---|---|---|
| 15 ft. or less | 8 ft. 6 in. | 9 ft. | 13.20 |
| over 15 ft. to 20 ft.- | 8 ft. 6 in. | 9 ft. | 16.60 |
| over 20 ft. to 25 ft.- | 8 ft. 6 in. | 9 ft. | 20.00 |

Since the truck body rates are comparatively lower than the truck rates for the same amount of freight, the truck carrier may find it more profitable to entrust the line-haul service to the railroad. All the truck line has to do is to collect and deliver within the terminal areas and consolidate their traffic according to points of destination.

Two kinds of rates are provided by different railroads, one includes line-haul service only, the other includes store-door service at both ends. Of the former type the Pennsylvania Railroad truck body service is an example. Responsibility of the rail carrier begins at the originating rail station and ceases at the destination point where the truck body will be transferred to the truck carrier. Of the latter type the Cincinnati & Lake Erie offers an illustration. Through its subsidiary company, the railroad publishes a kind of absorbing tariff which includes the pick-up and delivery at certain stations based on the actual cost of truck service in that locality. The shipment will be delivered to the store-door of consignee by the subsidiary company.

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(15) Pennsylvania Railroad Tariff P.S.C.-Md. 62, effective April 20, 1931.

(16) Ibid.

### Proposal for New Rate.

An investigation was made by the Pennsylvania Railroad in the Eastern territory to ascertain the length of haul of L.C.L. traffic which is most vulnerable to trucking competition. The result reveals that within the zone from 50 to 250 miles the truck carriers play an important role in the hauling of L.C.L. traffic. Over that limit the railraod can hold its own position. Among other factors which are responsible for such diversion of traffic from rail to highway, the lower truck rates, especially in the short haul traffic, as compared with the rail rates for the same distance is the decisive one. The difference of the rate structure between these two agencies is significant; unlike the rail rates, the truck charges are proportional to the length of haul. As a rule, the shorter the line-haul, the lower will be the unit charge. The same principle could not be applied to the rail rate, because the terminal expenses are rather constant regardless of the length of line haul. Therefore, the unit cost per mile in long haul traffic is comparatively lower than that in short haul. The following table, containing the average rail rates per mile per 100 pounds in the Eastern Territory, will show this tendency.(17)

Mills per Mile per Hundredweight from New York

| | Distance | 1st class | 2nd class | 3rd class | 4th class | 5th class | 6th class |
|---|---|---|---|---|---|---|---|
| N.Y.—Phila. | 90 | 6.22 | 5.33 | 4.35 | 3.11 | 2.22 | 1.66 |
| N.Y.—Harrisburg | 183 | 3.93 | 3.33 | 2.73 | 1.97 | 1.37 | 1.09 |
| N.Y.—Altoona | 311 | 2.86 | 2.44 | 2.00 | 1.45 | 1.00 | 0.77 |
| N.Y.—Pittsburg | 426 | 2.44 | 2.07 | 1.71 | 1.22 | 0.84 | 0.68 |
| N.Y.—Contain | 527 | 2.14 | 1.82 | 1.50 | 1.08 | 0.76 | 0.59 |
| N.Y.—Mansfield | 601 | 2.01 | 1.71 | 1.41 | 1.01 | 0.70 | 0.55 |
| N.Y.—Fortwayne | 746 | 1.85 | 1.57 | 1.30 | 0.92 | 0.64 | 0.51 |
| N.Y.—Chicago | 889 | 1.70 | 1.45 | 1.19 | 0.86 | 0.60 | 0.47 |

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(17) I.C.C. Docket 23400, Exhibit 478, presented by the Pennsylvania Railroad.

In view of the fact that the truck body service eliminates most of terminal expense, the Pennsylvania Railroad proposed a kind of flat zone mileage rate basis for truck body service in meeting the truck competition. The new rate, is based upon the distance of haul, regardless of the classification and weight of the content of the truck body. The first zone covers 100 miles, every additional 50 miles forming another zone; the rate per truck body per mile within the first zone will be 15 cents, additional five cents per mile will be added for each zone. For illustration, suppose a truck body to be transported up to a distance of 200 miles, the calculation of rates will be as follows:

| | |
|---|---|
| 15 cents per mile at first zone | $ 15.00 |
| 20 cents per mile at second zone | 10.00 |
| 25 cents per mile at third zone | 12.50 |
| | $ 37.50 |

Basing upon past experience, the railroad assumes that the average truck body load will be 75%, or 15,000 pounds per truck body. The unit charge per 100 pounds per mile, according to the proposed rate basis, will increase in proportion to the distance as follows:

| **Load** | **Distance** | **Truck body rate per mile** | **Average rate per mile per 100 lbs.** |
|---|---|---|---|
| 15,000 lbs. | 100 miles | 15 cents | 1.00 mill |
| ” | 150 ” | 20 ” | 1.11 mills |
| ” | 200 ” | 25 ” | 1.25 ” |
| ” | 250 ” | 30 ” | 1.40 ” |
| ” | 300 ” | 35 ” | 1.55 ” |
| ” | 350 ” | 40 ” | 1.71 ” |
| ” | 400 ” | 45 ” | 1.87 ” |
| ” | 450 ” | 50 ” | 2.04 ” |
| ” | 500 ” | 55 ” | 2.20 ” |

In comparing the proposed truck body rate basis with the regular rail rates, a striking difference may be noted. Within the zone of 100 miles, the unit charge will be as low as 6th class rates, within 150 miles, equals to 5th class, and so on. This is purposely arranged so the railroad may adjust itself to the short haul traffic and at the same time the truck carrier may profitably use the truck body service for the line-haul service and limit its activity within the terminal area, because the truck body rate will be much lower than the truck operating costs in performing the same service. The following comparison of average class rail rates, trucking rates, and truck body rates between New York and Philadelphia with pick-up and delivery service at both ends shows its significance:

Average class rail rate for 100 lbs. between New York and Philadelphia. (including 8 cents per 100 lbs. store-door service at Philadelphia, and 12 cents store-door service at New York.)

56.9 cents per 100 lbs.

Average trucking rates, including store-door service at both ends (20 cents for store-door service, 18 cents for truck rates.)

38 cents per 100 lbs.

Average truck body rates, including store-door service at both ends (20 cents for store-door service and 9 cents per 100 for truck body rate.)

29 cents per 100 lbs.

## Net Revenue From Truck Body Service

Although the truck body rates are comparatively lower than the class rates, the net revenue from this new service is greater than that from box car service, due to the drastic reduction in terminal expenses. A comparison between the revenue of these two services made recently by a leading railroad shows that the average gross revenue per car on less than carload traffic between New York and Philadelphia is $26.00. After deducting all costs except terminal switching and line-haul, the net revenue will be $2.17, or approximately, 2.17 cents per car mile. On the other hand, the gross revenue of three truck bodies (three truck bodies form a car) yields approximately

$45.00. After deducting the same items of operating costs as in the case of the box car service, there would be $41.67 as net revenue, or 41 cents per car mile-as great as more than twenty times the revenue of box car service.(18) This result could be obtained only through the elimination of transfer at both terminals and the increase in load. The handling expenses are reduced to a minimum, instead of handling every individual shipment by manual labor, a few crane movements will transfer the whole lot from car to truck.

### Advantages of Truck Body Service

The advantages derived from the adoption of truck body service may be summed up as follows:(19)

1. The best method for co-ordinating rail-motor freight service.
2. Lower transportation costs for the public.
3. Reduction in loss and damage to freight through the elimination of its physical handling.
4. The more expeditious handling of freight traffic.
5. Provision for a voluntary pick-up and delivery service to be performed by the trucker at the terminals.
6. A reduction in cost as compared with highway trucking.
7. A more economic all-rail operation through the elimination of physical handling of freight at station, and the necessity for providing stations to handle the freight.

### Ferry Truck Service.

In meeting trucking competition between the points of Chicago and Milwaukee, the Chicago North Shore Railroad adopted a novel service known as the "ferry truck service" and regained a great portion of traffic which had been lost to the truck carriers.(20)

The origin of this service may be traced back to 1919. At that time the North Shore Railroad obtained entrance into the Chicago terminal and established an off-track station at Franklin and Austin Avenues a place very near to the loop district within a distance of six miles from the Montrose on-track station. Interchange of freight between the on-track and offtrack stations was handled by means of trucks through arrangement with the local trucking companies. A certain number of trailers were assigned to

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(20) I.C.C. Docket 23400, Record 5536.

(18) Docket 23400, Testimony by J.F. Deansy, for the P.R.R. Vol. 20

(19) Deasy, J.F., "The Co-ordination of Rail and Highway Transportation." Pamphlet, 1931.

Form T. D. 405

ORIGINAL BILL OF LADING

**THROUGH CARS**

# DAILY FREIGHT SERVICE

**FAST TIME**

*"Less Than Carload Freight Service at its Best"*

Offices in Principal Cities—Consult Your Local Office

## UNIVERSAL CARLOADING & DISTRIBUTING CO., INC.

*Division of*
UNITED STATES FREIGHT CO.

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.......................................... 19........

Received from ................................................................................................

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for delivery to carrier for transportation to ......................................................................

..........................................................................................................................

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(Subject to terms and conditions of uniform bill of lading) the following described property:

| No. Packages | DESCRIPTION OF ARTICLES AND SPECIAL MARKS | WEIGHT (Subject to Correction) | Class or Rate | Check Column |
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If charges are to be prepaid, write or stamp here, "To be Prepaid."

Received $..................
to apply in prepayment of the charges on the property described hereon.

Agent or Cashier

Per ..........................................
(The signature here acknowledges only the amount prepaid.

Charges Advanced

$..................

.......................................................... Shipper

**Universal Carloading & Distributing Co., Inc.**

Per ..........................................................

Per ..........................................................

ALL PACKAGES COVERED BY THIS RECEIPT TO BE PLAINLY MARKED WITH CONSIGNEES NAME AND ADDRESS

FORM 3
$8\frac{1}{2} \times 5\frac{1}{2}$-F
1000m-10-3-29

# FREIGHT BILL

## The National Freight Company, Inc.

G. W. SHELDON AND CO. JUDSON FREIGHT FORWARDING CO.

**812-14 LAFAYETTE BLDG. PHONE LOMBARD 5420**

PHILADELPHIA, PA

CONSIGNEE

ADDRESS

FILE FOLIO FREIGHT BILL NO.

| WAY-BILLED FROM | WAY-BILL DATE | SHIPPER | CAR INITIALS & NO. |
|---|---|---|---|
| | | | |

| No. of Packages | ARTICLES AND MARKS | WEIGHT | RATE | FREIGHT | Other Charges | TOTAL |
|---|---|---|---|---|---|---|
| | | | | | | |

MAKE CHECKS PAYABLE TO ORDER OF
THE NATIONAL FREIGHT CO., INC.
SHOW FREIGHT BILL NUMBERS

RECEIVED PAYMENT FOR
THE NATIONAL FREIGHT COMPANY, INC.

............................................................

FORM 3
$8\frac{1}{2} \times 5\frac{1}{2}$-F

# ARRIVAL NOTICE

## The National Freight Company, Inc.

G. W. SHELDON AND CO. JUDSON FREIGHT FORWARDING CO.

**812-14 LAFAYETTE BLDG. PHONE LOMBARD 5420**

CONSIGNEE

PHILADELPHIA, PA

ADDRESS

FILE FOLIO FREIGHT BILL NO.

| WAY-BILLED FROM | WAY-BILL DATE | SHIPPER | CAR INITIALS & NO. |
|---|---|---|---|
| | | | |

| No. of Packages | ARTICLES AND MARKS | WEIGHT | RATE | FREIGHT | Other Charges | TOTAL |
|---|---|---|---|---|---|---|
| | | | | | | |

SUBJECT TO STORAGE CHARGES IF NOT REMOVED WITHIN 48 HOURS.
COLLECT SHIPMENTS WILL NOT BE DELIVERED ON THIS ORDER UNLESS ACCOMPANIED BY FREIGHT BILL PROPERTY RECEIPTED, OR UNLESS "CHARGE ACCOUNT" HAS BEEN STAMPED HEREON BY THIS COMPANY.
PLEASE DELIVER THE FREIGHT MENTIONED TO..............................................................................................................................

FREIGHT WILL NOT BE DELIVERED ON THIS NOTICE UNLESS THE ORDER IS SIGNED BY CONSIGNEE..........................................................CONSIGNEE

FORM 3
$8\frac{1}{2} \times 5\frac{1}{2}$-F

# DRAYMAN'S MEMO.

# The National Freight Company, Inc.

G. W. SHELDON AND CO. JUDSON FREIGHT FORWARDING CO.

**812-14 LAFAYETTE BLDG. PHONE LOMBARD 5420**

CONSIGNEE PHILADELPHIA, PA

ADDRESS

FILE FOLIO FREIGHT BILL NO.

| WAY-BILLED FROM | WAY-BILL DATE | SHIPPER | CAR INITIALS & NO. |
|---|---|---|---|
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| No. of Packages | ARTICLES AND MARKS | WEIGHT | RATE | FREIGHT | Other Charges | TOTAL |
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| | | | | | | |

SIGNATURE.......................................................

DATE DELIVERED.......................................... PER.......................................................

FORM 3
$8\frac{1}{2} \times 5\frac{1}{2}$-F

# DELIVERY RECEIPT

**The National Freight Company, Inc.**

G. W. SHELDON AND CO. JUDSON FREIGHT FORWARDING CO.

812-14 LAFAYETTE BLDG. PHONE LOMBARD 5420

PHILADELPHIA, PA

CONSIGNEE

ADDRESS

FILE FOLIO FREIGHT BILL NO.

| WAY-BILLED FROM | WAY-BILL DATE | SHIPPER | CAR INITIALS & NO. |
|---|---|---|---|
| | | | |

| No. of Packages | ARTICLES AND MARKS | WEIGHT | RATE | FREIGHT | Other Charges | TOTAL |
|---|---|---|---|---|---|---|
| | | | | | | |

SIGNATURE..........................................................................

DATE DELIVERED........................................

PER..........................................................................

FORM 3
8½ × 5½-F

# CONSIGNEE'S MEMO.

## The National Freight Company, Inc.

G. W. SHELDON AND CO. JUDSON FREIGHT FORWARDING CO.

**812-14 LAFAYETTE BLDG. PHONE LOMBARD 5420**

CONSIGNEE

PHILADELPHIA, PA

ADDRESS

FILE FOLIO FREIGHT BILL NO.

| WAY-BILLED FROM | WAY-BILL DATE | SHIPPER | CAR INITIALS & NO. |
|---|---|---|---|
| | | | |

| No. of Packages | ARTICLES AND MARKS | WEIGHT | RATE | FREIGHT | Other Charges | TOTAL |
|---|---|---|---|---|---|---|
| | | | | | | |

SUBJECT TO STORAGE CHARGES IF NOT REMOVED WITHIN 48 HOURS.
COLLECT SHIPMENTS WILL NOT BE DELIVERED ON THIS ORDER UNLESS ACCOMPANIED BY FREIGHT BILL PROPERTY RECEIPTED, OR UNLESS "CHARGE ACCOUNT" HAS BEEN STAMPED HEREON BY THIS COMPANY.
PLEASE DELIVER THE FREIGHT MENTIONED TO……………………………………………………………

FREIGHT WILL NOT BE DELIVERED ON THIS NOTICE UNLESS THE ORDER IS SIGNED BY CONSIGNEE……………………………CONSIGNEE

ACCOUNTING DEPT. COPY

PHILADELPHIA, PA.

## CASHIER'S MEMO.

PHILADELPHIA, PA.

**Universal Carloading & Distributing Co., Inc,**
Division of
UNITED STATES FREIGHT CO.

Form G A 115

☞ **SHOW ALL NECESSARY REMARKS IN DETAIL IN BODY OF WAYBILL DIRECTLY BELOW THE SHIPMENT INVOLVED** ☜

Shipped from (          ) ........................................ Route ........................ Date ........................................193 Way-Bill No. ........................................

Consigned to........ ........................................Destinatoin (          )........................................ Car No. ........ ........................Initial........................Class of Car........................

|  | SHIP'T No. | SHIPPER | CONSINGEE | No. OF PKGS. | DESCRIPTION AND MARKS | WEIGHT | RATE | CHARGES COLLECT | ADVANCES COLLECT ITEMIZE FULLY | CHARGES PREPAID | ADVANCES AND OFF-LINE PREPAID |  | RATE | COST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
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N F Co.—A G 64

# THE NATIONAL FREIGHT CO.

## SERVICE REPORT

WB From....................................................

To Date....................................................

We forwarded to-day car....................................................

Routed....................................................

Class....................................................

Please note in space below date, arrival, placed, handled mailing original to New York, copy to origin office.

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Arrived.................................... Placed....................

Handled ....................................

Delay due to ....................................................

....................................................

....................................................
*Signature*

the off-track stations where the freight received from the shippers was loaded into trailers. When completely loaded the trailer will be coupled to a tractor and hauled to the rail station where the freight is transferred to a rail car.

In May, 1926, this method was extended to line-haul service, instead of rehandling at the rail station, loaded teailers were put on the special devised cars and hauled to the destination. However, the trailers were used by the railroad as a substitution for the freight box cars in order to save the extra handlings at transfer points. It was not until 1927, that this service was extended to the shipping public in its present form. Going a step further, the Ferry Truck service includes store-door-delivery service. Upon the request of the shipper trailers are sent to his warehouse for loading on condition that at least a minimum weight of 6,000 pounds is loaded in every trailer. After being loaded the local trucking company, acting as the agent of the railroad line, hauls those trailers to freight station and puts them on flat cars for line-haul service. At destination the reverse operation is true.

Since 1920 the ferry truck service has been progressing rapidly; the following table registers the increase of trucks owned and operated by the Chicago, North Shore Railroad, an increase of about threefold in 1929 over the 1920 figures.(21)

| Year | Tractors | Trailers | Special designed flat cars. |
|---|---|---|---|
| 1920 | 3 | 10 | 4 |
| 1921 | 3 | 10 | 4 |
| 1922 | 6 | 16 | 4 |
| 1923 | 6 | 21 | 4 |
| 1924 | 9 | 26 | 4 |
| 1925 | 11 | 26 | 4 |
| 1926 | 11 | 48 | 4 |
| 1927 | 14 | 63 | 14 |
| 1928 | 16 | 78 | 14 |
| 1929 | 16 | 78 | 14 |

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(21) I.C.C. Docket 21723, Exhibit 546.

The inside dimensions of the ferry truck are 6 ft. 10 inches in width, 5 feet, 11 inches in height, 16 ft. in length, and its maximum loading capacity is 10 tons. The flat cars used in this service are specially devised. They are 60 feet in length, 9 feet in width and 3 feet 10 inches in height between the top of car and rail. When loading and unloading trucks, these cars are placed in a pit equipped with depressed tracks.(22)

Tractors, used to haul ferry trucks, consist of motor vehicle, made up of the ordinary truck chassis on short wheel base and a two wheel truck, over the rear axle of the chassis is mounted a turntable. So constructed that when the motor vehicle backs up to a trailer (the ferry truck) the turn-table engages a corresponding turntable unit on the front end of the trailer. When completely engaged the two form an articulated joint under the trailer which permits free lateral revolution. Upon engagement the two forward casters of the trailer are folded up so as to clear the floor or street which leaves the trailer free to travel on the turntable and its two rear wheels.(23)

The ferry truck service has proven to be an effective means not only protecting the railroad from further inroad of motor truck competition but actually increasing the volume of L.C.L. traffic. Records show that the ferry truck service does not divert the L.C.L. freight from the box car service, but develops new traffic which would otherwise be handled by motor trucks. Since 1927, the volume of traffic handled by the new equipment has been steadily increasing, while that handled by box car service remains unaffected as shown by the following table:(24)

| | Ferry Truck Service | Box Car Service |
|---|---|---|
| 1927 | 1,472 tons of L.C.L. | 87,550 tons |
| 1928 | 15,641 | 88,096 |
| 1929 | 25,145 | 81,162 |
| 1930 | 26,902 | 59,590 |
| 1931 | 31,271 | 88,971 |

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(22) Letter from Mr. W. Peterson, Traffic Manager of Chicago South Shore and South Bend R.R., February 27, 1931.

(23) I.C.C. Docket 21723, Examiner's report, Sheet 4.

(24) Docket 21723, Examiner's report, Sheet 6.

A study of the expenses of this service discloses the distinct savings possible under this plan of furnishing L.C.L. service. It is reported that in addition to the constant increase in volume of traffic, the operating expense of the ferry truck is substantially less than that of box car service. A striking contrast is found in the following figures:

In the year ending June 30, 1931, the gross income from ferry truck service was $28,736.00. This was obtained by deducting from the operating revenue the total operating expenses, depreciation, and taxes, determined on the general basis of the number of car-miles and tractor-miles operated and number of waybills issued. For the same period, the gross income from the total L.C.L. box car service arrived at on the general basis of car-miles operated and waybills issued, showed a deficit of $148,920.00.(25)

## Rate Arrangement

During the experimental stage of this service on the North Shore Railroad, the rate basis was adjusted several times to suit the traffic conditions. At the very beginning, the class rates were applied to the traffic with free pick-up and delivery at both ends by the railroad, provided that the minimum weight should be 6,000 pounds and the minimum charge $21 per truck. Later on, in view of the fact that the service did not appeal to the general shippers, the rate basis was soon changed to flat rate per 100 pounds between two definite terminals, regardless of the classification of the content. It is interesting to note that a careful study by the railroad of this traffic disclosed the fact that the free collection and delivery service did not meet the needs of a portion of traders. Some of them, having their own team truck, prefer to do the trucking themselves; others use the free time to store their goods in rail stations while disposing of shipment. Quite contrary to the purpose of the railroad that the free delivery service may create good will of shippers and attract more traffic to the railroad, some shippers regard this practice inconvenient. In order to meet the demand, the railroad offers an optional service including only one delivery service, i. e. either collecting at the originating point or delivering at the destinating point at the will of the shippers. The rate for such one delivery is lower than the former one, but such service is available only to those shipments with a minimum weight of 20,000 pounds.

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(25) Ibid.

Excepting certain articles which are barred from transportation in the ferry trucks, freight handled by the ferry trucks between Chicago and Milwaukee from one shipper to one consignee, in one day on one shipping order, will be charged according to the following sliding scale:(26)

| | | |
|---|---|---|
| Minimum weight | 6,000 lbs. at a rate of | 40 cents per 100 lbs. |
| | 10,000 | 30 |
| | 15,000 | 25 |
| | 20,000 | 20 |
| | 20,000 | 15 (one delivery only) |

In case any shipment is in excess of the full loading capacity of the ferry truck, the overflow freight is not subject to the minimum weight rule and will be charged for actual weight at the rate applicable on the entire shipment. Under this condition the railroad reserves the right to add another shipment into the partially loaded truck.

Controversy as to the sliding scale of ferry truck rates arose and was brought to the Interstate Commerce Commission for adjustment by the Chicago Northwestern Railroad, a competing line of the North Shore Railway. In the Container Case the Commission held that it is unreasonable to accord lower container rates when the weight of content increases, and ordered that all Class I railroads operating container service should observe this rule. Accordingly, the Chicago Northwestern Railroad revised its container rates in conformity with the Commission's order. The North Shore Railway not being a Class I railroad, still maintains the sliding scale rate as mentioned in the above table. It is contended by the former line that the lower rates seriously affected its traffic and that it is unfair to maintain different rates for the same service in the same territory.

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(26) Docket 23400, Testimony of Chicago, North Shore and Milwaukee Railroad.

Upon this the Commission took investigation and found out that the variation of rates according to the weight of shipment is justifiable because the operating expenses do vary with the weight of content increases. At the very beginning, the Chicago North Shore line kept separate records for traffic of different ratings. The following accounts show the average operating expense per ton of various kinds of shipments.

Average Operating Expense per ton:

| | |
|---|---|
| $2.5607 | for shipment with minimum weight 20,000 lbs.<br>(@ 20 cent per cwt.) |
| $3.3838 | for shipment with minimum weight 15,000 lbs.<br>(@ 25 cent per cwt.) |
| $4.7259 | for shipment with minimum weight 10,000 lbs.<br>(@ 30 cent per cwt.) |
| $6.4222 | for shipment with minimum weight 6,000 lbs.<br>(@ 40 cent per cwt.) |

From the above data the conclusion may be drawn that the sliding scale of rates is by no means an injustice to the small shippers who are supposed to be overcharged. On the contrary, it appears that the differences in rates are less than that which seems to be warranted by the difference of expenses. If we take operating expense per ton for a shipment with minimum weight of 20,000 lbs. as basis, we find that the rates of progression of the expenses are 47.7% more in truck with minimum load of 15,000 lbs; 84.8% more with a minimum weight of 10,000 lbs; and 150.8% more with 6,000 lbs. shipment. On the other hand, the rate of increase in charge is only 25%, 50% and 100% respectively. Evidently, the small differences favor the shippers at the higher rates and lower minimum.

It was held in the decision of the Interstate Commerce Commission that the difference of rates could be justified only by the "difference in the quality and cost of the service,"(27) there is no ground for holding that the sliding scale of ferry truck rates is a discriminating rate practice, because the operating expense does vary with the difference in weight of loading. Such a finding sheds new light upon the cost of truck operation, and helps the Commission to formulate a rate structure for the new service. It is probably that if those railroads operating L.C.L. container service could present accurate data to show that the variation of container rates is based on the difference of operating cost, the Commission might modify the former decision to a certain extent to conform with the fact.

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27. I.C.C. Decision in the Container Case, Docket 21723.

# CHAPTER IX

# CO-ORDINATED SERVICE THROUGH A THIRD AGENCY-THE FORWARDING COMPANY

The foregoing chapters have dealt with the co-ordinated freight service jointly operated by rail and truck carriers. Nothing has been said about the co-ordinated service through a third agency,-the forwarding company. The forwarding company operates neither rail nor truck service, but acts as an intermediate agent to unite these two transportation services. Attention is to be confined in this treatise to the co-ordinated services effected through the forwarding company, without reference to its many other functions.

## Origin of Freight Consolidation

Before the advent of the steam railroads, the freight traffic of the country was carried by sailing vessels, canal boats, stage coaches, and horse-drawn wagons. Inclement weather and poor road conditions made the arrival and departure of these carriers very uncertain. It became necessary, therefore, to provide a means of concentrating freight pending the arrival and departure of the carriers.

As a rule, someone operating a business along the route, or at the terminus of the road or river, was designated as a forwarding agent or freight forwarder. He received freight and shipping instructions from the shipper and held the goods pending the arrival of the carriers. He also received shipments from the carriers and held them until circumstances permitted consignees to call for their goods.

The first L.C.L. railroad freight consolidator in the United States was the G. W. Sheldon Company.(1) In 1898 the company at Chicago had two shipments to export; one destinated to London, and the other to Buenos Aires, Argentine. The two were shipped as a

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1. Shannon, Homer H., "The L.C.L. Consolidator," Traffic World, Vol. 45, p. 31.

single carload from Chicago to New York at a rate of 30 cents per hundred pounds, as against the L.C.L. rate of 65 cents. This simple business operation resulted in the formation of a large business.

The progress of the freight forwarding business has been hastened to a considerable extent by the introduction of new transportation facilities, particularly by the motor truck and the steel container. Formerly, the activities of freight forwarding companies were confined to the railroad pool car services, but in recent years motor truck services have been added to their activities. It is admitted by a representative of a leading forwarding company that were it not for the motor truck and container the freight forwarding business would never have been so progressive and profitable as it is at the present time.(2)

Recently, new forms of forwarding companies have commenced operations. There are many consolidated truckmen who act as agents of shippers or consignees, performing collection and distribution services by truck in the terminal areas, and making arrangement either with the railroads or other trucking companies for line-haul movements.(3) Another form of forwarder, known as the container freight forwarding company, focuses its activities in the container car service to transport L.C.L. shipments gathered from different shippers into container lots. (4) Still another type of forwarding company offers co-ordinated service of three important transportation agencies; the railroad, the motor truck, and the waterway.

Although the services of forwarding companies have been constantly improved to adapt them to changing conditions, the underlying principle of the consolidation of L.C.L. freight remains unchanged. As defined by the United States Supreme Court:

> "The business of the forwarding agent...is to collect L.C.L. shipments from different consignors, combine such shipments into carloads, and ship the same in the name of the forwarding agent,

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2. I.C.C. Docket 21273, testified by the Universal Carloading and Distributing Company.

3. Ibid, Record 57

4. Traffic World, Vol. 45, p. 31, January 4, 1930.

> or of the owner of one of the L.C.L. shipments, to one consignee, who may be the forwarding agent himself, another forwarding agent at the point of destination, or the owner of part of the shipment, whenever they may be, receives the carload and distributes its content to the parties for whom they are intended. The forwarding agent finds his compensation and profit in the difference between the carload and the L.C.L. rates."(5)

## The Legal Status of the Freight Forwarder.

The legal status of the freight forwarder in Great Britain has been clearly defined by court authority as an "intercepting agent" of the shipper or consignee. At the originating point the forwarder acts as the shipper, and at the destination as the consignee. Therefore, the rail carriers and other transportation agencies should treat the forwarders on the same terms as though dealing directly with shippers or consignees. It is illegal to discriminate in rates against the forwarder. In this connection the English Court has observed:

> "Under the similar circumstances and conditions the carrier can not impose a higher rate when the property is tendered for shipment by an intercepting agent than when offered by the owner."(6)

Following the British practice the courts of this country have recognized the legal right of the forwarder in doing business as an intercepting agent.

In the case of Buckland v. Adams Express Company the Supreme Court of Massachusetts pointed out the different characteristics between a common carrier and an intercepting agent as follows:(7)

> "They (the common carriers) exercise the employment of receiving, carrying, and delivering goods, wares, and merchandise for hire on behalf of all persons who may see fit to require their service. In this capacity they take property from the custody of the owner, assume right to possession and control of it, transport it from place to place, and deliver it at point of destination to some consignee or agent there authorized to receive it."
>
> The Interstate Commerce Commission has held that:
>
> "The forwarder does not hold itself out in any sense as carrier; it does not transport goods, it does not maintain custody of them while in the course of transportation."(7A)

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(5) Interstate Commerce Commission v. L. & W. R.R., 220 U.S. 244.

(6) Great Western R.R. Co. v. Sutton, L R. 4 H. L. 226 as cited in 9 I.C.C. 620.

(7) Buckland V. Adams Express Company, 97 Mass. 124-129 as cited in 14 I.C.C. 425.

(7A) 14 I.C.C. 425

## Ownership of Shipment Not a Rate Consideration.

During the early days disputes often arose between the rail carriers and the freight forwarders as to the rates applicable to shipments transported as pool car shipments. In most cases the railroads refused to quote carload rate on consolidated shipments on the ground that since the ownership of those goods was different, the shipments should be treated as separate consignments. However, the Interstate Commerce Commission over-ruled this objection, stating:

> "The carrier deals with the shipment that is tendered, not with its ownership nor with its ultimate use; and it deals with the shipper who tenders it, not with the owner of the property or the last and remote person to whom it is distributed."(8)

## Importance of Forwarding Business to the Railroads.

In the early days, the attitude of the railroads toward the freight consolidators was hostile rather than amicable. Litigation was brought in the courts by the railroads contending that the consolidation of freight would curtail the railroads' gross revenues whenever the lower carload rates were applied to the movement of commodities which would otherwise have moved at higher L.C.L. rates.

Later on, the railroads realized that the consolidated service was not so harmful to them as it first appeared and that the reduction of railroads gross revenues did not necessarily cause a net loss to the railroads.

In performing the consolidating service, a portion of station work is transferred from the rail carriers to the freight forwarders. The goods must be handled over the platform, receipts must be given to the individual shippers, charges must be collected from the shippers or consignees, and the manifests must be forwarded to the destination stations for distribution. This work is not entirely eliminated but much of it is shifted from the railroads to the forwarding companies. The freight forwarders must defray certain expenses out of their gross revenues. It was testified by a representative of a leading forwarding company that the average platform cost amounts to 15 cents per 100 pounds for both terminals, and administrative costs are about 3 cents per 100 pounds, making a total handling expense of 18 cents per hundredweight.(9)

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(8) 14 I.C.C. 422

The consolidation of L.C.L shipments into a solid carload benefits rail carriers in other ways. Instead of handling each single shipment as in the L.C.L. consignment, the railroads accept the consolidated carloads from one place at one time to be transported as one lot to one consignee. The railroads are saved the following expenses:

1. The cost of billing different shipments as against the cost of billing one shipment,
2. The platform expenses entailed in handling at least 15 shipments per car, and
3. The cost of making collection and auditing in connection with a number of shipments as against one shipment.

Cost studies made by two Eastern railroads show the savings to be as follows:

| | **N.Y.C.R.R.** | **P. R. R.** |
|---|---|---|
| Clerical cost in handling L.C.L. freight per cwt. | 12.60% | 9.70% |
| Platform cost in handling L.C.L. freight per cwt. | 11.55% | 11.55% |
| Total Costs | 24.15% | 21.25% |

Carload consolidating is valuable to railroads, especially in large terminals where the terminal facilities are taxed to the limit and the handling costs are unusually high By diverting a portion of L.C.L. traffic to the consolidating car service, terminal facilities and station forces can be employed for other profitable services. It is safe to say that the gain from relief of terminal congestion more than offsets the reduction in gross revenue resulting from the defference between the C.L. rate and L.C.L. rate. In the hearings on container car service before the Interstate Commerce Commission a representative of a leading eastern railroad testified that, "in case the L.C.L. business handled by forwarding companies in New York were to be turned back to the railroad for regular service, serious congestion would be inevitable."(10)

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(9) I.C.C. Docket 21723, testimony of the Universal Carloading and Distributing Company.

Control of Forwarding Company by Railroads.

Due to intense competition for traffic among the railroads and between the railroads and freight forwarders in large cities, the tendency for railroads to participate in the consolidating freight business is increasing. The Interstate Commerce Commission has observed:

> "Our investigation has disclosed that several of the more important of these forwarding companies have come, directly or indirectly, under the domination of railroad companies........In general, this domination has been brought about through the medium of subsidiary or affiliated holding companies."(11)

The Chicago, St. Pual, Minneapolis Railroad controls the Wilson Store Company through its subsidiary and the Pennsylvania Railroad controls the National Freight Company through stock control. In order to facilitate the co-ordination of rail-truck service, the Omaha Line, through its subsidiary trucking company, has entered into contract with the Wilson Storing Company, acting as a medium between the railroad and traders.(12) The railroad does not own any stock of the latter company, but uses the interlocking of officers to connect the latter as a collateral company of its subsidiary, the Wilson Transportation Company. The main function of the Storing Company is to consolidate L.C.L. lots into C.L. lots. Acting as the agent of the jobber, the Storing company collects small lots by trucks from various inland towns and consolidates them into solid carloads ready for transportation by railroad. On the other hand, inbound traffic to various jobbers is loaded into solid carloads and consigned to the Storing Company for redistribution. Many old abandoned as well as newly equipped freight stations on the Omaha line are leased by the Storing Company. The railroad performs switching services in delivering and collecting solid cars to and from these stations.

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(10) 173 I.C.C. 390

(11) Forty-fifth Annual Report of the I.C.C. 1931, p. 86.

(12) I.C.C. Docket 23400, Vol. 12, testified by the Omaha R.R.

A different method is used by the Pennsylvania Railroad in controlling the National Freight Company, a very powerful forwarding company resulting from the merging of the Judson Freight Forwarding Company, the Westland Forwarding Company and the G. W. Sheldon Company. The National Freight Company, incorporated in June, 1929, issued 120,000 shares of no par value stock, all of which is owned by the Pennroad Corporation, a holding company controlled by the Pennsylvania Railroad. About 60 branch offices are maintained in every large city throughout the country and Canada.

It was suggested that the consolidating agencies should be controlled by railroads on the same basis as the railway express business, and to each participating line should be given an equitable share of the tonnage on the same basis as express tonnage is appropriated among the railroads. Finally, these organizations might relieve the railroads of all L.C.L. freight. It has been suggested that this could be attained by extending the functions of the Railway Express Agency to include handling of all L.C.L. freight.(13)

The participation of railroads in the forwarding business makes the situation more acute, due to the fact that in addition to the competition of the forwarding companies with each other there is also competition with the railroad companies. The forwarding companies, due to the domination of the railroads, in many instances, are no longer dependent wholly upon their own financial resources.(14)

Operating Methods of Forwarding Companies.

In forwarding freight the companies reserve the right of using any form of transportation. Shipments may be transported by box cars, containers, trucks, and steamships, as conditions warrant. High grade merchandise is usually shipped in containers, lower grade goods are often shipped in box cars, subject to mixed carload rule, and emergency shipments are handled by motor trucking service.

The railroads treat the forwarders just as ordinary shippers, issuing one bill of lading to cover each shipment offered at one time to be delivered to one consignee, and charging the regular railroad carload rates according to the mixed carload rules, or the regular container rates, if the goods are forwarded by container.

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(13) Railway Age, September 28, 1929, p. 707.

(14) 45th Annual Report of I.C.C. 1931, p. 87.

The forwarding companies seldom own their terminal facilities, but lease them from the railroads. This arrangement benefits both parties, for the freight stations leased to the forwarding companies are usually stations which have been abandoned by the railroads due to lack of traffic. The forwarding companies are saved heavy investments in buildings, while the rail carriers get a return from their unused properties. As the ordinary lease of the railroads' porperty, the forwarding companies pay rental based upon the estimated value of the property. Cancellation clauses to the effect that the railroads reserve the right to revoke the contracts by a 60 or 90 day notice are contained in the lease contracts.

Unlike railroad operation in which inbound and outbound freight houses are sometimes managed separately, the forwarding companies employ the same stations for both outgoing and incoming traffic. In some cases, one platform is assigned to outbound and another for inbound, while in other cases the same platfrom is used to handle inbound freight in the mornings and outbound freight in the afternoons. Two reasons may be ascribed for this method of handling. Some of the inbound freight must be redistributed to its final destination, and the economies in operation may be obtained by using the station facilities and forces more extensively. As a rule the railroads render free switching service for collecting and delivering shipments from or to the forwarders' station platforms, subject to the carriers' regulations governing trap or ferry car service.

In consolidating outbound shipments, the forwarding companies employ both destination loading and classification loading methods. Under the first method, each car or container is assigned to only one destination, while the latter method shipments of the same class to the same destination are loaded in the same car. This arrangement is necessary not only because the forwarder can get

Form G.A. 124

# CLASSIFICATION SHEET

MADE BY.................................................. STATION........................................................ ........................................................192......

DEST. ........................ .................................. BLOCK ......................................................... CAR NO.........................................................

SEALS EAST ...................................................... WEST .......................................................... VENTS.........................................................

SEALS END WINDOWS.........................................................................................................................................

| 3rd | R26 or A | 4th | 5th | | L. C. L. |
|---|---|---|---|---|---|
| | | | | | |

| | RECAPITULATION |
|---|---|
| 3rd | |
| R26 | |
| 4th | |
| A | |
| 5th | |
| L.C.L. | |
| Total Wt. | |
| Min. Req. | |

| | | | | | TOTALS |
|---|---|---|---|---|---|
| | | | | | |

lower rates from the railroads according to the mixed carload rule,(15) but also because this practice avoids many damages to shipments because freight of the same classification is often or more or less similar in nature. As soon as shipment is loaded into a car, the receiving clerk records the class and weight of that shipment so he can tell at any time what tonnage and classes of goods are loaded into each car. All shipments loaded in the car listed upon a "classification sheet" which is prepared by the forwarding agent at the point of origin. (See accompanying form). Each column of this form represents one class of freight, such as 3rd class, or 4th class. After the car is loaded, a recapitulation is made in the lower right corner of the sheet showing the weight of each class of goods, as well as the total weight of the entire shipment. The railroad agents calculate the freight charges upon each shipment according to the mixed carload rule.(16)

## Bills of Lading. .

The principal shipping document in the business transaction between the forwarding companies and their customers is the "original bill of lading" which is issued by the companies when the shipments have been properly received. (See the accompanying form) The form of this bill is copied from the uniform railroad bill-of-lading. It contains definite spaces for a statement of the number of packages received from the shippers, a description of the articles, weights, classes, rates, and a check column. In case the freight charges are prepaid or if advances are made, a proper notation is made in a space set aside for the purpose. The forwarders assume full responsibility for the shipments while in their custody, "subject to terms and conditions of uniform bill of lading." In case of loss and damage to the shipment due to the negligency of the railroads, the forwarding companies settle the claims with their customers and make settlements later with the railroads.

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(15) Consolidated Freight Classification, Rule 10.

(16) Ibid.

### Shipping Papers.

The preparation of shipping papers by forwarding companies is noteworthy, for it promotes the efficient movement of freight. It is a common practice for all the necessary shipping papers used at the destination to be prepared by and mailed from forwarding stations, so that upon arrival of freight, agents at the receiving stations can make immediate delivery, without awaiting the preparation of billing at destination. As soon as shipments are forwarded, the agents at originating stations send to receiving stations a manifest containing all necessary information about the shipments, together with a set of shipping papers for each individual shipment. This set of shipping documents is also known as the "multi-part freight bill." (See accompanying forms). Briefly, its use may be described as follows:

| | |
|---|---|
| Part I. The Freight Bill. | Contains a record of the waybill, itemizes the goods that have arrived, and states the total amount to be collected. Upon payment of charges due the forwarding company, it is signed by the freight agent and serves as a receipt to the consignee. |
| Part II. The Arrival Notice. | Informs the consignee that the freight listed in the notice is ready for delivery upon payment of charges. It also serves as the basis for computing demurrage charge if the shipment remains in the forwarding company over 48 hours. |
| Part III. The Deilvery Receipt. | When the shipment is duly delivered the consignee is requested to sign this part as a receipt. |
| Part IV. Drayman's Memorandum. | This part is kept by the drayage company, and serve as a basis for settling accounts with the forwarding company. |
| Part V. Consignee's Memorandum. | Kept by the consignee. |
| Part VI. Accounting Department Copy. | After the freight charges have been paid by the consignee, this copy is sent to the accounting department. |
| Part VII. Cashier's Copy. | When shipment is prepaid, the cashier at originating station signs it. When freight is collected, the cashier at destination signs it. This copy should be sent to the treasury department. |

## Service Report.

For the purpose of checking the freight movement, a "service report" is used by the forwarding company, a copy of which is shown in accompanying form. After shipments have been sent out, the freight agent at the forwarding station issues the report in duplicate form. One is sent to the central office and the other is forwarded to the receiving station. On the upper part of report the forwarding agent fills in all items, such as the date of departure, number of cars, description of freight and the name of transportation agency. As soon as the shipment has been duly received and delivered to consignee, the freight agent at the receiving station is required to fill in the blank items on the lower section of the original report, mailing the original one to the central office and a copy to the forwarding station. In case the shipment is delayed, the reason for the delay must be stated on report.

This report proves to be a very useful shipping paper in the freight movement. The central office can check over the efficiency of the receiving station in handling inbound freight, the freight agent at the forwarding station can make expeditions tracing work in case of shortage or misrouting, and the agent can give a satisfactory answer to his customer as to the date of arrival and delivery of shipment.

## Container Car Service Through the Forwarding Company.

The development of container car service has a close relationship with the forwarding business. Without container car service the functions of the forwarding business would have been limited to a considerable extent; while without the forwarding company container car service could hardly have reached the present status. As shown by statistics of railroads, the forwarding company is by far the largest user of the container car service; in 1928 about 85% of the container traffic on the N.Y.C. line and from 90% to 95% on the P.R.R. and Lehigh Valley R.R. were contributed by the carloading companies. The reason for the forwarding company patronizing this service is indicated in the testimony before the Interstate Commerce Commission by one representative of a large carloading company:(17)

> "Before the container car service was established, we limited the commodities to those which have a C.L. rate of third class or less, after the container service started we are able to handle commodities of any rating ... Formerly, consolidated car service was confined to important commercial points where the volume of traffic is sufficient to load a car. Since the adoption of container service we can use containers instead, with a minimum weight of only 4,000 pounds. Moreover, the flexibility of the container is a great asset to the forwarding business, we may load from one to six containers instead of loading a freight car, for instance, no service was offered between New York City and Utica, now we send daily one or more containers to that place."

Since the inauguration of container service on the New York Central line, its growth has been steady, as the record shows:(18)

| | | | |
|---|---|---|---|
| In 1923 | 1,344 | containers handled | |
| 1924 | 4,826 | ......... ....... | |
| 1925 | 8,287 | ......... ....... | |
| 1926 | 9,394 | ......... ....... | |
| 1927 | 10,217 | ......... ....... | |
| 1928 | 33,739 | ......... ....... | |
| 1929 | 42,330 | ......... ....... | |
| 1930 | 47,886 | ......... ....... | |
| 1931 | 44,062 | ......... ....... | |
| 1932 | 15,731 | ......... ....... | (11 mouths) |

In the year 1927 the New York Central Railroad carried 53,255,372 pounds of L.C.L. freight in containers for a revenue of $154,321. In the following year, 1918, its tonnage by the same service increased to 414, 880,000 pounds for a revenue of $641,684, representing an increase of 303% in tonnage and 316% in revenue, 1928 over 1927. This sudden increase was explained by the railroad due to the entering of the Universal Carloading Company into container service in that year.(19)

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(17) I.C.C. Docket 21723, pp. 223, 306.

(18) Ibid.

(19) Ibid.

Again, a striking contrast may be found in the following table which registers month by month the performance of container car service of the New York Central line in 1928. About 85 per cent of the containers were used by the carloading company and only 15 per cent by individual shippers; about 86 per cent of the total tonnage was contributed by the carloading company as compared with 14 per cent by other shippers. The average loading per container is heavier through the carloading company, containing an average of 6,900 pounds as compared with 6,100 pounds by other shippers; or 13.1 per cent heavier.

Total Tonnage of Merchandise Freight and Number of Containers Handled by New York Central Line in 1928.

| | **Carloading Company** | | | **Other Shippers** | | |
|---|---|---|---|---|---|---|
| | loaded containers | weight of shipments. | | loaded containers. | weight of shipments. | |
| Jan. | 266 | 1,548,076 | lbs. | 666 | 3,759,012 | lbs. |
| Feb. | 1,259 | 7,539,621 | ,, | 418 | 2,482,188 | ,, |
| March | 1,783 | 10,576,133 | ,, | 486 | 2,977,301 | ,, |
| April | 1,876 | 10,930,977 | ,, | 430 | 2,558,426 | ,, |
| May | 2,078 | 12,718,390 | ,, | 465 | 2,806,452 | ,, |
| June | 2,369 | 15,183,854 | ,, | 455 | 2,749,930 | ,, |
| July | 2,403 | 15,608,054 | ,, | 430 | 2,623,254 | ,, |
| Aug. | 2,851 | 18,694,338 | ,, | 319 | 1,944,545 | ,, |
| Sept. | 3,265 | 21,754,932 | ,, | 241 | 1,408,131 | ,, |
| Oct. | 3,859 | 25,015,972 | ,, | 302 | 1,932,921 | ,, |
| Nov. | 3,399 | 22,927,030 | ,, | 414 | 2,487,069 | ,, |
| Dec. | 3,243 | 21,941,780 | ,, | 462 | 2,731,706 | ,, |
| Total | 27,651 | 184,419,157 | lbs. | 5,088 | 30,460,935 | lbs. |
| | 84.5% | 86% | | 15.5% | 14% | |

Besides using the railroads' container car services as individual shippers, the freight forwarders also lease L.C.L. containers and gondola cars from the container manufacturers in order to protect themselves from car shortage in times of peak load traffic.

A typical case illustrates the arrangement. The Universal Carloading and Distributing Company leases 300 L.C.L. steel containers and 50 gondola cars from the L.C.L. Company on the same terms as the latter makes with other railroads. Under the contract, the forwarding company pays rental on a mileage basis at the rate of two cents per loaded car mile, and one cent per empty car mile. The forwarding company receives compensation from the rail carriers at six mills per car mile according to Agent Jones' Tariff covering private car equipments.(20)

The domination of the forwarding company in the container car service may be ascribed to the following reasons:

First, the liberal minimum weight and charge. The most powerful weapon which the forwarding company uses to attract traffic, is its lower minimum weight and charge which benefits the average shipper most when his shipment does not reach the railroad minimum weight. According to a typical forwarder's tariff, the minimum weights and charges are calculated in any of the following three ways:(21)

1. If the shipment is rated as first class or lower in the forwarder's tariff, the minimum charge shall be the sum for 100 pounds at the forwarder's rate applicable thereto.
2. If the shipment is rated higher than first class in forwarder's tariff, the minimum charge shall be the sum for 100 pounds at the first class rate; but
3. In no cases shall the minimum charge for a single shipment be less than 50 cents.

The difference in contrast with the minimum weight 4,000 pounds per container as prescribed by the railroads is apparent. In the opinion of leading forwarder this limit is rather too high for any average shipper.(22) There are few large concerns which can assemble a container load over 4,000 pounds to a single destination. A survey, made by the Universal Carloading Company in the City of New York in 1928, showed that there were about 18,000 potential L.C.L. shippers, from whom the average weight of an individual shipment weighed not over 500 pounds.(23) Under such circumstances, it is always to the shipper's advantage, when his shipment does not reach 4,000 pounds, to use container car service through the medium of the forwarding company; he can get equal service but at less expense.

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(20) I.C.C. Docket 21723, Record 241.

(21) Universal Carloading and Distributing Co., Tariff No. 12 Rule 2; See also National Freight Company, Tariff No. 8, Rule 3.

(22) I.C.C. Docket 21723, Record 2990, testimony of Walter Rockstahler, President of the Universal Carload and Distributing Company.

Second, the distributing work at destination. A particular advantage in handling L.C.L. shipments through a forwarding company is its distributing work at the destination. Even if the railroad could reduce its rates as low as the forwarder's, many shippers would still patronize the forwarder by reason of this special service. A large wholesaler has 4,000 pounds of freight to fill 20 orders of different customers at one destination. He could not use the container car service unless he has an agent at the destination to separate the container-load for each receiver. This difficulty can easily be overcome by using the forwarding company as his agent. The following clause is usually provided in the forwarder's tariff that "when distributing work at the destinating point is desired the shipper shall give instruction about the name of the consignee and his address preceded by the word 'for' appearing in the body of the bill of lading under the description cf articles. After the shipment is forwarded, the shipper shall mail a memorandum copy of the bill of lading to the forwarding company at destination with full forwarding instructions."(24) At the destining point the forwarding company acts as the agent of the shipper and redistributes the shipments as instructed.

A typical case presented in the recent co-ordination hearing before the Commission may be used as an illustration.(25) A large magazine and periodical company in New York maintains 35 central distributing districts throughout the country, each of which handles the redistribution of magazines to numerous retailers within their respective territories. About 100 kinds of magazines are distributed throughout the country to the amount of 10,000,000 pounds per month. Three different distributing methods are available to this shipper, all through the medium of the forwarding company:

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(23) Ibid.

(24) The Universal Carloading and Distributing Co. Tariff No. 12

(25) I.C.C. Docket 23400, Record 1910, testified by A.M. Korb, Traffic Manager of the Pictorial Review Company, N.Y.

1. Shipments to the same district are shipped in carload lots, consigned to a forwarding company at destination, whence the shipments are separated and forwarded by trucks to various retailers. This is similar to the pool car service, and needs no explanation.

2. Shipments to those points where container service is available, are loaded in containers and consigned to a forwarding company. The latter does the redistributing work. For instance, shipments to Pittsburgh are consolidated into containers, and consigned to the Exhibitor Distributing Company. The latter company acts as the agent of the Pictorial Review Company, unloads the containers at its platform, and segregates them in accordance with the instruction. To make the final delivery, an overnight trucking service is guaranteed by the forwarder.

3. The last method is the combination of the above two; the Pictorial Review Company uses railroad box car freight service to ship consignments to a central point where the carloads are sorted and reloaded into containers. The shipments to the final receivers are delivered by trucks.

Third: freight forwarding offers other advantages, in addition to the two advantages mentioned above. At most large cities forwarders usually provide free store-door delivery and collection service which benefits shipper through saving trucking charges as well as relieving them from the trouble of arranging with local truckmen for cartage In handling the container traffic, the forwarding companies provide Gantry crane facilities at their freight stations, thus relieving shippers of loading and unloading the freight. In most cases, the forwarding companies also offer C.O.D. service.

Co-ordinated Rail-Truck Service.

The forwarding companies through arrangements with both rail and motor carriers, offer a form of co-ordinated service in handling L.C.L. shipments. Trucking service has been employed extensively, either to supplement the rail service or in direct delivery to the consignees' stores. Since the forwarding company maintains freight stations only in large cities where the volume of traffic warrants them, trucking service is used to link up all surrounding small cities with concentrating points where all outbound shipments from small cities are transferred to the rail cars to be forwarded to their final destinations. Inbound shipments to surrounding cities are sent to concentrating points where trucks haul them to the final receivers. The National Freight Company operates a daily trucking service from Philadelphia to Camden and Trenton. No terminal facilities are provided at Camden and Trenton. In the morning, inbound freight is distributed by truck to consignees in these two cities, and on the return trips outbound freight is hauled to Philadelphia for consolidation.

As a rule, the forwarding companies do not operate trucks directly, but make contracts with existing trucking companies, the latter acting as the agents of the forwarders and taking full responsibility for any damage and loss to the shipments in transit. It is advisable for the forwarders to use the existing facilities instead of entering direct operation, because the trucking companies usually quote special rates for the forwarder on account of the constant and heavy traffic. The local cartage agents also act as traffic solicitors.

### Store-Door Delivery.

Direct collection and delivery service has long been used by the forwarding companies. Formerly, horse-drawn wagons were used to perform the service, but with the development of motor vehicles, trucks have gradually supplanted the teams. The first trucking store-door service was inaugurated at Minneapolis in 1920 by the Universal Carloading and Distributing Company.(26) Since then this kind of service has spread rapidly throughout the whole country.

The trucking charges, in some cases, are included in the freight rates, while in others, they may be absorbed partly by the forwarders. In still other cases, they are charged according to the local trucking rates. These variations depend upon the local practice and the competitive force in the area served. Since trucking rates include store-door service, in certain places the forwarders absorb this cartage in order to meet the competition. Sometimes the forwarder may absorb a part of the cartage in order to attract certain kinds of traffic. For instance, for bulky packages weighing 2,000 pounds or more, the forwarding companies sometimes absorb the cartage charge up to 10% per one hundred pounds.(27)

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(26) I.C.C. Docket 21723, record 2990.

When shipments are destined to those places where the forwarders' rates do not include the store-door service, the forwarders may make arrangements with the local trucking companies to perform the delivery service for the consignees, if the latter so desire. The trucking charges in such cases are borne by the consignee according to the regular trucking tariff, filed with the forwarding companies by the trucking concerns. The National Freight Company, for instance, has arrangement with a trucking company in the Chicago terminal area to perform collection and delivery services for shippers according to the following schedule of rates:(28)

## THE NATIONAL FREIGHT COMPANY

### Cartage Rates

### (Chicago, Ill.)

| | | |
|---|---|---|
| Zone 1. | | |
| Chicago Ave. North | 800 Block | 10% per cwt. 75% Minimum |
| Halsted St. West | 800 ,, | |
| 12th St. South | 1200 ,, | |
| Zone 2. | | |
| North Ave. North | 1600 Block | 10% per cwt. 75% Minimum |
| Ashland Ave. West | 1600 ,, | |
| 27th St. South | 2700 ,, | |

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(27) Universal Carloading and Distributing Company, Tariff 12, effective March 10, 1930, p. 23.

(28) Obtained by interview with Mr. Ludwig of the National Freight Company.

Zone 3.

| | | |
|---|---|---|
| Diversey Blvd. N. | 2800 Block | 12% per cwt. $1.00 Minimum |
| Kedzie Ave. West. | 3200 ,, | |
| 43rd St. South | 4300 ,, | |

Zone 4.

| | |
|---|---|
| North of Diversey to 7500 Block | 15% per cwt. $1.25 Minimum |
| West of Kedzie te 6000 Block | |
| South of 43rd St. to 7900 Block | |

## Rates

The task of formulating freight rates is much less complicated for forwarding companies than for railroads. One guiding principle which determines the forwarders' rates is that rates should be slightly lower than or just equal to the railroad L.C.L. rates, on the one hand, and higher than the rail carload rates, on the other, for the same class of commodities. The reason for these differences are apparent. In consolidating shipments into mixed carloads, forwarders pay railroads the regular C.L. rates and defray the expenses of the cartage service, handling cost, and administrative costs out of the difference between the rates received from shippers and standard C.L. rates paid to the rail carrier. The following differentials below railroad L.C.L. rates are generally accepted as a measure in determining the forwarders' rates:

| 1st class | 2nd class | 3rd class | 4th class | R25 | R26 |
|---|---|---|---|---|---|
| 10% reduction | 8% reduction | 6% reduction | 4% reduction | 6% reduction | 4% reduction |

The gain from such difference is legal. The Interstate Commerce Commission has held:

> "The saving effected by securing application of the C.L., rather than the L.C.L. rates, may be divided between the forwarding agent and his customers in any agreed proportion, to the extent that the customer secures the carriage of his property at a lower rate than the L.C.L. rate, which would otherwise be applied. He saves money, and the division of the difference between the C.L. and L.C.L. rates is a matter of private bargain between him and the agent."(29)

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(29) 14 I.C.C. 441.

With a few minor exceptions the freight classification systems used by forwarding companies follow the Consolidated Freight Classification used by the rail carriers. The forwarders' rates apply only to articles which have carload ratings of third class or lower in the railroad freight classification. Unless by special arrangement, forwarders do not accept those articles which provide the same C.L. and L.C.L. rates because there would be no profit left after paying the railroad freight charges. Briefly, the forwarders' rates fall into the following groups.

1. Same as the railroad L.C.L. rates, excepting 4th and R 26 classes,
2. Same as the railroad L.C.L. rates, but including cartage service at one or both terminals,
3. Lower than railroad L.C.L. rates according to the foregoing differentials,
4. Lower than railroad L.C.L. rates, including cartage service,
5. Articles to which the forwarder's rates do not apply will be subject to railroad L.C.L. rate plus a handling charge of 25 cents per hundred weight, and
6. Commodity rates.

No special container car rates are published by the forwarding companies. The rates for box car service are also applicable to the container car service. In the forwarders' tariffs a clause is usually provided to the effect that through the use of steel containers and box cars they are prepared to handle freight between certain places.(30) Due to keen competition among forwarding companies, however, the rates applicable to those places where the railroads offer both box car and container car services, are much lower than to other places.

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(30) I.C.C. Docket 21723, Record 220.

## Container Car Service Profit.

Under the former container rate structure, i.e. flat mileage basis, the forwarders made greater profits in container service than in consolidating car service. In certain cases the forwarders' profits were greater than that of the railroads, as is shown in the following illustration: Assuming that a shipment of 7,000 pounds (the average tonnage per container shipment made by forwarding companies is about 7,000 lbs.) to be transported from Philadelphia to Pittsburgh, a distance of 368 miles, the following tabulation shows the shipper's saving through use of the forwarding company, and the shares of the railroad and forwarder:

| | First Class | Second Class |
|---|---|---|
| Railroad rate | $ 55.30 (@ 79 cents per 100) | $ 47.95 (@ 68½ cents per 100) |
| Minus differential | $ 5.60 (10% reduction) | $ 3.85 (8% reduction) |
| Forwarder's rate | $ 49.70 | $ 44.10 |
| Container rate | $ 23.92 (@ 6½ cents per 100 lbs. per mile) | $ 23.92 (@ 6½ cents per 100 lbs. per mile) |
| Gross Revenue | $ 25.78 | $ 20.18 |
| Platform cost | $ 10.50 (15 cents per 100) | $ 10.50 (15 cents per 100) |
| Operating revenue | $ 15.28 | $ 9.68 |

In case the same shipment were handled through consolidating car service, the forwarder's revenue would be less, as shown below:

| | 1st Class | 2nd Class |
|---|---|---|
| Forwarder's rate | $ 49.70 | $ 47.95 |
| Railroad C.L. rate | $ 38.15 (assuming 2 class lower, i.e. 3rd class) | $ 25.25 (assuming two class lower, i.e. 4th class) |
| Gross Revenue | $ 11.55 | $ 19.85 |
| Platform cost | $ 10.50 | $ 10.50 |
| Operating revenue | $ 1.05 | $ 9.35 |

A comparison of the figures in these two tables shows that in the container car service the forwarder receives more in operating revenue than the railroad, approximately 21.5 cents per 100 pounds, in first class and 13.7 cents in 2nd class commodities. In the consolidating car service the operating revenue is reduced to 1.5 cents in the first class and 13.3 cents in 2nd class respectively. Another thing shown in the foregoing calculation is that the container service is adapted to high classed goods, while the consolidating car service is best adapted to the lower classed goods.

## Rate Discrimination.

Freight forwarders do not strictly adhere to their published tariffs, and may, upon certain occasion, grant special concession to their customers. As a private carrier in the business of transportation, the freight forwarder has more or less freedom in the matter of rates and practices. Despite the fact that there are published tariffs, it is not uncommon for reductions to be made to certain shippers, or even for cash payments to be made to certain industrial managers in order to attract traffic.(31) These practices are due to the keen competition among forwarders and with other transportation agencies. The following factors are given by a large forwarding company as the causes for deviation of rates.(32)

1. Free trap car service. Trap car service is sometimes likened to store-door delivery by rail, under which shippers equipped with private sidings, may deliver outbound freight and receive inbound traffic by free switching service, if the minimum weight prescribed by the rail carrier is reached. To certain shippers, therefore, it is more favorable to transport L.C.L. freight directly by railroad than through a forwarding company. Under such circumstances, the forwarding company usually accords those shippers special reduction in rates in order to induce them to use the consolidating car service.

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(31) 45th Annual Report of I.C.C. 1931, p. 86.

(32) I.C.C. 21723, Record 2988, 3018.

2. Geographical location. Since it is the commonly accepted practice among the forwarding companies to lease freight stations abandoned by the railroads as their receiving and distributing facilities, they are usually handicapped by occupying a less advantageous position which may be far away from the business and industrial centers of cities. Consequently, the cartages charged to or from the forwarders' stations will be so high as to prevent some shipper from using the consolidating service. To overcome such difficulty the forwarder grants some concession to those shippers whose plants or stores are located far from the forwarders' stations.

3. Competition with other transportation agencies. In addition to the railroad L.C.L. service, the railway express and motor trucking companies are keen competitors of the freight forwarder. The railway express agency competes only for the high-valued goods in small quantity shipments, while the trucking companies handle almost any kind of goods. Trucking rates are usually lower than the rail rates and the service in short haul is faster than rail movement. On certain occasions, therefore, the forwarders are forced to give special concessions to meet the challenge of motor competition.

This departure of published rates results in inconvenience to most shippers. In the language of the I.C.C.: (33)

> "The result is that shippers of L.C.L. freight more particularly in the large cities, are today confronted with a situation similar to that which existed in respect to railroad rates prior to the enactment of the act to regulate commerce, and even thereafter until the amendatory legislation of 1903 and 1906. That is to say, there is no stability in the rates of the forwarding companies, and a shipper has no means of knowing definitely what rates his competitors, or even he himself, will have to pay these companies from day to day for the carriage of L.C.L. shipments."

This tends to destroy the stability of railroad rate structures and creates many prejudicial and preferential conditions that are injurious to the proper handling of business. To deal with such a chaotic situation recommendation has been made by the I.C.C. that the Interstate

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(33) 45th Annual Report of the I.C.C., 1931, p. 87.

Commerce Act be amended so as to require that rates, regulations, and practices of forwarding companies which are engaged in interstate commerce be reasonable and nondiscriminatory.(34)

## The Profits from Consolidation

Theoretically, the difference between the L.C.L. rate over the C.L. rate should be just sufficient to cover the added expenses of handling of small lots. In pointing out the difference between these two services, the Interstate Commerce Commission had held that:(35)

> "Carload freight....is generally received and delivered at private sidings or on team tracks and usually the loading and unloading is performed by consignors and consignees. L.C.L. freight is usually handled through the station and the expense thereof is borne by the carrier. In addition, the movement of freight in carload means efficient use of equipment for the average loading is much greater."

The Commission has held also that:

> "In establishing a proper relation between C. L. and L.C.L. ratings consideration should be given to the relative costs of handling, the damage made upon the terminal properties of the carrier, and the utilization of equipments.(36)

In view of the fact that the freight forwarders in taking L.C.L. shipments have no less to do with the shipments than the railroad would have, the question may be raised as to: why the rail carrier can not perform this service at profit even at a higher rate, and why the freight forwarders make a living in the consolidation of small lots at lower rates? The question may also be raised as to how the forwarders can perform certain additional services, such as store-door delivery, and distribution of goods, and still charge shippers rates lower than the railroad rates and yet earn a profit.

The answer is this: the difference in the status of these two agencies makes their service different. The railroads, as common carriers, hold themselves out to serve every locality along their lines and to transport all kinds of goods tendered by the shippers, while the forwarders are a private agent of shippers and able to select the classes of commodities and the localities where there is an opportunity for profit. As a rule, forwarding companies maintain terminal facilities only in large cities where the volume of traffic makes operation profitable. Their traffic is limited to higher class commodities. Their service over certain routes may temporarily be suspended during the lean traffic seasons. All these would be impossible for the railroads to do because of their common carrier status. The contention of the railroads that forwarders take the "cream of the crop" which yield more profit while the railroads are bound by rigid regulations and must take over all L.C.L. traffic whether it is attractive or not, has foundation in fact. It would be otherwise if the forwarder were compelled to take all classes of traffic between all points.

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(34) Ibid

(35) 54 I.C.C. 8.

(36) 25 I.C.C. 608.

However, credit must be given to the forwarding companies for their efficient operation in handling L.C.L. shipments. It is a general rule that specialization of labor is more efficient than generalization. The forwarders devote their efforts in the assembling and classifying small shipments, and consequently they are likely to be more skillful in handling such shipments than the railroads. Moreover, in the absence of proper arrangements between the rail and the motor carriers for co-ordinated service, the freight forwarders perform a useful function by acting as intermediary agents between these two agencies in offering co-ordinated transportation service to shippers and consignees.

# CHAPTER X

## REGULATION OF CO-ORDINATED SERVICE

### The Trends of Transportation Legislation.

The general belief that the enforcement of competition among individual and rival agencies of transportation is the best regulator of service and rates, and that the general public will be benefited by such checking forces, has faded out since the beginning of the last decade. Clear indication of this change is found in the trends of transportation legislation in this country.(1) In the Interstate Commerce Act of 1887, no real rate-making power was given to the Interstate Commerce Commission. The underlying theory on which the act was based was that if the railroads could be forced to compete fairly and openly, competition itself would assure reasonable rates and service. However, the legislation seemed inadequate to meet the situation, so the Act was amended in 1906, and in 1910 the Interstate Commerce Commission was given the power to fix maximum rates. It would seem that Congress believed that no obstacle should be put in the way of lowering rates and thus, securing the benefit of railroad competition.(2) The passage of the Transportation Act of 1920 marked the change in philosophy of legislation based upon efficiency of free competition. The regulatory body recognized that railroad enterprise constitutes a sort of natural monopoly and that unrestricted competition among them would not give the benefits to the general public.

Therefore, the Act preserves the principle of service competition and abandons it as to rates by sanctioning the consolidation of competing lines, the acquisition by one railroad of control over another, whether through lease or stock control, and the pooling of traffic and earnings under the supervision of the Interstate Commerce Commission. It is also provided in the Act that before constructing a new line or making any extension, the railroad is required to obtain a certificate of public convenience and necessity from the Interstate Commerce Commission which will be issued only when the public interest requires such service. The purpose of this restriction, as stated on the floor of the Senate when the bill was under discussion, is to eliminate unnecessary duplication of the existing facilities.

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(1) Johnson, E. R., "Trends in Transportation," Wharton News, Dec., 1931.

(2) J. E. Cummings, "The Need for Coordination of Our Transportation System," Journal of Political Economy, Vol. 35, 1927, p. 825.

What is true of the railroad enterprise is also true of the transportation system as a whole. From a national standpoint each agency is no longer a business entity, living unto itself, but is a link in an integral system or a partner in a huge enterprise. If it is admitted that the cooperation among rail carriers will promote general welfare and improve service, there is no reason why this type of regulation should be limited to only one agency. The art of transportation must be adjusted to meet the changing economic conditions that arise. In formulating such adjustments, any unnecessary destruction of the existing agencies should be avoided. If rail and motor transportation should continue to develop separately, each independently and regardless of the other, they will impede rather than help industry and commerce, because the unnecessary duplication of service and investment in a certain field would lead to ruinous competition and unremerative revenue to both. Should they grow as supplements to each other, the progress of industry and commerce will be encouraged and both agencies can benefit each other as well as benefit themselves.

## The Purpose of Regulation

The purpose of regulating various transportation agencies is to improve rather than to restrict their developments. As pointed out by the Interstate Commerce Commission, regulatory legislation and administration should be with the single purpose of improving transportation.(3) This opinion is shared by many farsighted leaders in the transportation field. For instance, on one occassion Ralph Budd, President of the Great Northern Railway said:(4)

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(3) 140 I. C. C. 737

> "Regulation is absolutely necessary for the railways, and is likewise for other public transportation agencies. Proper regulation will tend to strengthen rather than to weaken the development of other transportation agencies."

Again, Professor G. Lloyd Wilson of the University of Pennsylvania remarked:(5)

> "If the motor industry is recognized in the early stage of its development as being an integral part of our national transportation system, its progress toward its proper place in the transportation system may be facilitated by the judicious application of regulatory action by the Federal Government."

### Present Status

The development of motor transportation into a comprehensive transportation system is necessarily followed by a readjustment of public regulation both state and Federal, the latter being more important, because the activities of the new agency is no longer limited to one locality and the co-ordination of various forms of transportation is of national importance.

In meeting these changing conditions all the states in the union, except Delaware, have laws regulating the operation of motor vehicles as common carriers of passengers, and 39 states have laws regulating common carriers of property. Briefly speaking, state regulation falls into two general types; one is to protect the highways and highway traffic, the other to prevent the wasteful competition and the irresponsible operation over the highways. Included in the former type are regulations upon width, height, length, speed, and weight of vehicles: of the latter are regulations requiring certificates of public convenience and necessity and regulations of rates and service. The first type of regulation, while it is important, bears little relation to the co-ordinated rail-motor service, so we shall consider only the latter type.

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(4) Budd, Ralph-Address before Des Moines Chamber of Commerce, January 7, 1931.

(5) Wilson, G. Lloyd, "Future Motor Transportation" Traffic World, Vol. 36, Nov. 21, 1925. p. 1226.

Opinions are divided among the courts of various states as to the consideration of other existing transportation facilities before granting a certificate to a motor common carrier. One important theory is that, when issuing a certificate for motor service, consideration should not be given to the effect which the proposed motor competition would have on rail lines or other agencies, since the question of public convenience and necessity relates to motor carrier activity alone.(6) Another theory holds that in determining whether or not a certificate should be issued, the regulatory body should give due consideration to the transportation service being furnished by the existing agencies, and the effect which the proposed motor service may have upon other forms of transportation service which are essential and indispensable to the communities to be affected by the proposed motor service.(7)

During the early stages of state regulation there was a tendency to authorize motor service to compete with independent rail service despite the protests of the rail lines that this meant financial ruin to them. That serious financial loss to rail lines does not outweight inadequacy of existing transportation has been held by New Hampshire, Pennsylvania, Virginia, South Dakota, Montana, Colorado, Washington, and California.(8) However, since 1922, court decision seems to shift toward preferential consideration of rail carriers.(9)

The attitude of state commissions toward railroads participating in motor service is by no means uniform. Some considered that the subsidiary company of the railroad should be treated just the same as the independent motor carrier when applying for a certificate, while others held that rail carriers should have prior right in engaging in motor service, either due to its financial responsibility or its transportation experience.(10)

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(6) 196 N.W. 518

(7) Duncan, C.S., Rails and Roads, p. 17

(8) J.J. George, Motor Carrier Regulation, p. 185

(9) Ibid, p. 195.

(10) P.U.R. 1925 A 700, P.U.R. 1923 C 61.

In 1929, a study was made by the American Railway Engineering Association over various court or commission decisions with respect to the motor coach and truck operation in opposition to the railroad since 1922.(11) The trend of the majority of these opinions was that the existing transportation companies should have an opportunity to supply service, whether by road or by rail, adequate to meet the demand of the situation. Unless they failed to meet the requirement, it would be poor economy to grant a certificate to a new agency in direct competition with the existing facilities.

A typical case may illustrate this opinion, in Egyptian Transportation System, Inc., Va. Louisville and Nashville R.R.,(12) case, the Supreme Court of Illinois reversed the decision of the state commission and ruled that the commission erred in refusing to permit the railroad to show in what manner it would meet the requirement as to service in its district and in granting a permit to a bus line without affording the railroad an opportunity to provide the required service. A similar case occurred in West Virginia where the B. & O. Railroad, through its subsidiary company, applied for a bus permit to operate a certain route paralleling to its lines, it was denied and the permit was granted to an independent motor company. The railroad took the case to the Supreme Court of West Virginia, which held that when an existing rail carrier is one of the several applicants for the certificate to operate motor service over a route parallel to the rail line, and is fully qualified to render the additional service proposed, the state commission should give preference to the rail carrier.(13)

Prior to the decisions of the Supreme Court of the United States on March 2, 1925, in Buck and Bush cases, a number of states regulatory bodies assumed control of the interstate operation of motor vehicles and required their operators to conform to the laws of the various states in which they were operating. These decisions expressly held that the states have no power to prevent, by denial of certificate of public necessity and convenience, the interstate operation even in the absence of Federal legislation.(14) However, the state may exercise its police power to preserve its highways, to restrict their use for private profit, and to protect the health, comfort, convenience, and general welfare of its people.(15)

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(11) Bulletin of American Railway Engineering Association, Jan 1929, p. 771.

(12) 321 I.L.L. 580.

(13) Bulletin of American Railway Engineering Association, Jan. 1929

Unfortunately, the Federal government has not yet taken any definite action toward the regulation of interstate motor operation. The Transportation Act of 1920, which was enacted before motor transportation had reached any considerable proportion, naturally did not include this new agency into the national transport; several bills proposing to regulate motor carrier engaged in interstate commerce were introduced in Congress, but are still pending before that body.

Since the interstate motor operation has been free from all regulations many defects in its service and practice are left unchecked. To quote from the statement of the Interstate Commerce Commission:(16)

> "With no law regulating interstate common carrier over the public highways such commerce can now be, and is, carried on by as many as desire, regardless as to financial responsibility, and from slightest control or regulation as to route, fares, schedules, public convenience and necessity. .....Operators engaged in such business are not required to report to any authority and, save for the public regulation of state and municipalities, are subject to none. They may operate at their pleasure and may cease operation temporarily or permanently as they choose. There is nothing to prevent them from discriminating unduly and competing unfairly. The public using such lines have no governmental agency of any description to which they may appeal in the matter of rates, routes, schedules, or safety in the use of public highways."

The demand for Federal regulation over motor truck has become more acute in the recent years. In 1928 after the completion of its comprehensive study on the operation of motor bus and trucks, the Interstate Commerce Commission recommended to Congress that existing regulation should include the motor bus carrier in interstate commerce, but that there did not appear to be a public need for Federal regulation of motor trucks. In its second investigation in 1930, the Commission recognized that regulation should be applied to truck carriers as well as bus carriers.

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(14) 267 U.S. 307. 267 U.S. 317

(15) 235 U.S. 610. 242 U.S. 160

(16) 140 I.C.C. 725

Pros and Cons of Federal Regulation of Motor Truck.

There is consensus of opinion regarding the advisability of Federal regulation of bus carriers engaged in interstate commerce. The opinion, however, as to the question of regulating motor trucks is divided. Arguments are usually advanced to the effect that, owing to the wide difference in their functions, these two transportation agencies should be considered separately in order to reach a proper solution of the regulatory question. Motor buses, operating between fixed termini and serving the traveling public, is comparable to other means of transportation, therefore similar regulation may be beneficially applied.(17) Motor truck operation, a kind of "tramp" service, seeks cargoes for various destinations wherever they may be found;(18) on account of its flexibility and mobility, its rates and services could not be regulated in the same manner in which the rates and services of the railroads ars governed. Truck operators cannot live up to specific schedules as to rates and as to time and regularity of operation.

The arguments against Federal regulation of motor carriers may be summarized as follows:

The infant industry argument is often advanced by the opponents of Federal regulation.(19) It is argued that granting this interstate truck operation should be regulated as other means of transportation, the time is not yet ripe to justify such action. Truck transportation, especially in interstate commerce, is still in its infancy and should be allowed to develop a while without government restriction. According to the recent traffic survey by the Bureau of Public Roads, only 7 per cent of the trucks of this country operate as common carriers, of which 5½% are in the intrastate commerce and 1½% in interstate commerce.(20)

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(17) Brief of the National Automobile Chamber of Commerce before I.C.C. on Docket 23400.

(18) Trumbower, Henry R., "The Regulation of the Common Carrier Motor Vehicles", American Economic Review, v. 19, No, 1, Mar. 1929, p. 226.

(19) Johnson, Huebner and Wilson, "Principles of Transportation", Chapter XI, p. 454.

Secondly, it is argued that the regulation of motor trucks is not in the interest of the shipping public. The best evidence supporting this view is found in recent hearing before the Interstate Commerce Commission where the demand for Federal regulation did not receive any support from the shippers' associations or other commercial organizations. The origin of public regulation of other public utilities came about as result of public demand, because regulation was held necessary to adjust abuses resulting from their semi-monopolistic nature. No such demand exists in motor truck transportation for it is more individual and private in its nature than other public utilities. So far no complaints against motor truck rates and service have been brought up to justify the introduction of public regulation; on the contrary, most of the shippers' associations have opposed such plans of regulation much more.

The demand for Federal regulation of motor truck carriers has often been criticized by the automobile industry as the agitation of the railroad industry with the purpose of regaining traffic from the highway. It is held that the general public at present is not interested in its regulation, and the proposal for regulatory control over truck carriers has been almost always under the auspices of the railroad. The theory that as the railroads are regulated so the truck should also be regulated is unsound. Regulation of railroads was imposed at the demand of shipping public rather than at the demand of the other transportation agencies. The case is plain enough, if we trace the outset of the railroad development which forced the inland waterways and stage coach to minor places. Do we think it is advisable to regulate the railroad to save or revive those agencies? If not, why should the truck be regulated for the sake of the railroad?

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(20) I.C C. Docket 23400, Testimony of T.H. Macdonald for Bureau of Public Roads.

It is argued that if regulation is imposed upon the truck carriers, some harmful results are inevitable. The advantage of trucking service is its flexibility to meet the demands of every individual shipper and consignee Regulation of such service means the exclusion of carrier A and the permission of carrier B in the business of transportation. Thus a shipper can no longer choose for his emergency delivery the truckman in whom he has the most confidence. This service deprives small shippers of the advantage of fast and efficient trucking service. Moreover, the increase of burdensome details and red tape of regulation is inevitably followed by an increase in the costs of operation. An example of this is shown by the effect of state regulation. Since the passage of state legislation on the motor carrier, many additional expenses have been added for the operating cost; which are finally to be borne by the shipping public.(21)

The enforcement of truck regulation by a single adminstrative body involves many practical difficulties. The enforcement of the regulation would be ineffective if it does not include the contract truck carriers which play an important part in interstate commerce. Assuming that there is no question about the constitutionality of such inclusion, there are tremendous obstacles to putting the law into effect. At present, approximately 600,000 vehicles are operating in the contract carrier business, a substantial number of whom are operating in interstate commerce. (22) The problem of isolating these, and distinguishing carriers for hire from private trucks, interstate from intrastate, presents an almost insurmountable obstacle before regulation proper even begins. In case the tariff of rates for each individual operator and his accounting method should be supervised by the regulatory body, an army of expert accountants would be needed to enforce such a system.

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(21) Brief of the National Automobile Chamber of Commerce, before I.C.C. on Docket 23400.

(22) Ibid.

On the other hand, the advocates of Federal regulation of truck carriers advance the following arguments:

In the first place, state regulation can hardly be enforced effectively without the adoption of Federal regulation. In the absene of such regulation many motor carriers, under the guise of doing interstate business, are deliberately doing an intrastate business; in so doing they are in flagrantly violating local laws, using highways on which the state authority prohibites them to operate, and charging rates on interstate traffic much lower than those charged on intrastate traffic. To remedy this chaotic situation the Federal Government should take appropriate action.

From the standpoint of public welfare there is no essential difference between intrastate and interstate service. The mere crossing of a state line does not eliminate or change the need for regulation. There is identically the same necessity for the protection of public interest. If it is not burdensome or unduly restrictive to have state regulation over the common carrier by motor in intrastate commerce, why should it be burdensome or unduly restrictive to the common carriers handling interstate commerce? It is not consistent with public policy that the public should be protected against unduly and unnecessary use of such highways by common carrier motor vehicles engaged in intrastate commerce, while unlimited and unrestricted use of them be made by common carrier motor vehicles in interstate commerce.

In answer to the argument of infant industry and the lack of public demand, the advocates of governmental regulation base their reply on the statement that prevention is always better than cure. The term "public need" should not be confused with the term "public demand;"(23) it is almost always the case that public demand for regulation reaches its climax only after the damage has been done. No one familiar with the history and development of railroad transportation will deny that the public and the railroads companies themselves would have fared better if Federal regulation of railways had come much earlier than it did. The same principle can be applied to motor regulation. If it is really in the public need, even though there is no public demand, it is wise for the government to adopt some remedial method.

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(23) I.C.C. Docket 23400, examiner's report, sheet 108.

Regulation of the motor truck carrier by the Federal government is necessary to preserve the existing transportation agencies. To quote an impartial view from a leading authority in transportation:(24)

> "Motor truck carriers in many states are free to adjust their charges and to conduct their traffic and financial affairs without interference other than the payment of taxes and compliance with restrictions as to weight, length, speed, and the like. The extent to which railroad rates and other charges and railroad practice and rules are regulated by the states and the Federal government is of common knowledge. The difference is so great as to constitute an unfair competitive handicap."

As long as the railroad must remain the backbone of our national transportation system, the Federal government should take appropriate steps to remove such destructive forces, and enable each of them to serve the public efficiently and to conduct a profitable business.

Arguments for the regulation of motor truck carrier is predicated not entirely upon the fairness of competition between the rail and the motor carriers, but upon the principle of equality in trade.(25) Under this principle the shipping public should be treated indiscriminately, i.e. no unfair advantage to one use over another. It is this principle that caused the government regulation of rail carriers to prevent the rebate and undue and unjust discrimination against persons or places. This has been attained by means of regulation of rates and practices, the requirement that tariffs be published of and adhered to until lawfully changed. It is clearly evident that the unfairness of undue and unjust discrimination between persons and places is not a particular evil of railroad transportation charges, and that the need for a reasonable degree of stability in rates is common to all forms of transportation so far as practicable. These cannot be wrong if indulged in by the railroads and right if indulged in by motor carriers. Under the present status trucking charges and practices may vary in different cases according to the choice of the carrier. As a result one shipper or one locality may obtain unfair advantages over another. If this state of variable rates continues, disturbance to the general flow of commerce will follow. Therefore, regulation is a necessary remedy.

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(24) Huebner, G.G., "Public Regulation of Motor Transportation," Wharton News, Dec. 1931.

(25) Ibid. See Duncan, S.C., "Rails and Roads," Page 25.

Proper regulation is necessary to protect the motor carrier from ruinous competition. Motor transportation itself is highly competitive due to the case of beginning business with a small capital. The prospective motor carrier may start business by securing equipment from automobile manufacturer on a time payment basis. All he needs is a small amount of working capital to pay the rent of physical property and hire drivers. These conditions easily lead to the unnecessary duplication of service and overabundance of equipment. As soon as the supply of service exceeds the amount of traffic, inevitably every carrier will solicite business by reducing rates as low as possible, regardless of whether they cover all operating costs or not. Even the responsible carrier which has looked to the future has been unable to achieve a secure position and establish a standard of efficient and continuous service.(26) The participation of railroads in the motor transportation through their subsidiaries intensifies the situation since some railroads compete with independent truck carriers by cutting the rates of their subsidiary company. This rate war will greatly affect the stability of trucking business.(27) Under proper government regulation all such failures can be eliminated and secure position, and standards of service maintained.

Many dependable truck carriers are willing to see proper regulation on trucking service. It is their belief that the regulation will not only prevent the cut-throat competition among the irresponsible carriers but also promote uniform practices and charges for the similar service. For instance, in his address before the conference, Harry G. Williams, President of the United Highways Transit Line, Inc., expressed that only the proper regulation can stabilize service and fix responsibility among trucking carriers.(28)

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(26) Peterson, G.S., "Motor Carrier Regulation and Its Economic Basis", Quarterly Journal of Economics, Vol. 43, p. 604.

(27) I.C.C. Docket 23400, Examiner's Report, sheet 108.

### A Means to Co-ordination

"Co-ordination of transportation cannot reach its economic possibility under this anomalous condition" as testified by Examiner Flynn of Interstate Commerce Commission before the Senate hearing.(29) Under the present status the railroads may lawfully enter into motor operation within the terminal area, but it is an unsettled question whether it is legal for them to operate trucks in the line haul service. It is largely due to this uncertainty that most of the railroads are not in favor of engaging directly in highway operation. The aggressive ones are operating through their subsidiaries and the conservative railroads are sticking to the rail.

Many railroads hold the opinion that proper co-ordination between rail and motor can not take place until there is a system of corresponding regulation for each. First, ruinous competition among motor carriers would seriously affect the stability of motor transportation and indirectly affect the chance of co-ordination. Secondly, since the railroads are under rigid regulation with respect to just and reasonable rates, undue discrimination and undue prejudice as to persons, commodities, and places; and the motor carriers are not; any connection that a rail carrier may have through financial control or joint operation is inevitably affected by the fact that a rail carrier is bound under severe penalty to meet the requirement of these provisions in the Interstate Commerce Act, while the motor carrier is free from them.

To obtain full economy of co-ordination of rail and motor, two important issues are involved in the future Federal regulation of motor carriers. They are:

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(28) Traffic World, December 6, 1930, p. 1438.

(29) 72nd Congress, S. 2793, p.3.

1. Its relation with other forms of transportation,
2. The stabilization of motor carrier by certificate control.

The granting of permission to a railroad to engage either directly or indirectly in the motor operation is a necessary step toward co-ordinated service. Although under present legislation there is no restriction preventing the railroads from entering in such operation, the lack of a definite relation between these two agencies hampers any progressive step. It is also true that co-ordination may be, to some extent, effected independent of each other, but it will fall far short of what can be accomplished if rail and motor vehicle operations are under the same management. It is likely that the motor operation under the railroad's management possesses certain advantages over the independent motor carriers due to the greater experience of the railroads in transportation, the training of personnel in the organization, and its financial ability.

Opposition to the railroad's participation in motor operation is generally based upon the assumption that the primary purpose of the railroad is to meet the competition of independent motor company. As soon as this competition has been destroyed, the railroad would abolish this new service and keep the traffic to the rail. This contention loses sight of the fact that the railroads are under government regulation. This possible evil could be easily checked by the regulatory body requiring the continuance of motor service if it is of public necessity and convenience.(30)

In a recent hearing on co-ordination of motor and railroad operations, the Commission renewed its recommendation:(31)

> That railroads, whether steam or electric, and water carriers, subject to the act, should be specifically authorized to engage in the transportation of both persons and property by motor vehicles in interstate commerce over the public highways and that thereafter such service, when directly engaged in by any such railroad or water carrier should be subject to the provisions of the Interstate Commerce Act and legislation supplemental thereto and that to the

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(30) Brief on behalf of the Association of Railway Executives, I. C. C. Docket 23400, p.65.

(31) 182 I.C.C. 386.

> extent that a certificate of public convenience and necessity is an anticedent to the operation of other common carrier motor vehicles; common carrier subject to the Act should be required to obtain a certificate of public convenience and necessity.

The permission of a railroad to acquire, purchase, and control motor companies is of equal importance. Under the Transportation Act the consolidation of two or more rail carriers is permissible if after a hearing the commission finds that the public interest will be promoted by such consolidation. In order to carry out this purpose the railroads consolidated with the approval of the Interstate Commerce Commission shall be released from the operation of the Anti-trust law. This waiver of restriction is fully in accordance with the spirit of the Act which emphasizes coordination rather than the wasteful competition. Following this reasoning, if this step proves necessary to increase the economy and efficiency of rail operation, there seems no reason why the same method could not be applied to the co-ordination of rail and motor service. It is the opinion of an expert in transportation that the existing law may be modified to such extent that the rail carriers be permitted to acquire motor vehicle lines already existing wherever such action is in the interest of economy and efficiency of operation and not adverse to the public interest under the same procedure as the consolidation of two or more rail carriers prescribed in the Transportation Act.(32)

Joint rates and through routes.—Unless the legal status of motor carriers is definitely stated in Federal regulation, no satisfactory arrangement on joint rates and through routes with other instrumentalities can be made. Under the existing law joint rates and through routes between rail and water carriers were sanctioned, but no provision was made covering the same arrangement with motor carrier. The Interstate Commerce Commission held that its jurisdiction covers the joint rail-motor service within the terminal area, but when the service extends to the line-haul, it has no power of regulation. In discussing the joint tariff for rail-motor service, the Commission said:(33)

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(32) I.C.C. Docket 23400, Examiner's Report, sheet 114.

(33) 91 I.C.C. 549.

> "It has been our ruling that joint rates cannot be made between carriers subject to the Act and those not subject to the Act. The law does not prohibit either a rail or a water carrier....from interchanging business with motor trucks and entering into proper arrangements to acquaint the shipping public with the total charges for the full movement. But such arrangements are not required by law and the fact that they may be entered into does not extend the terms of the act to include the motor truck service."

If the future legislation definitely sets forth the legal status of motor carriers, many advantages can be obtained. "Uniform common carrier liability could be provided for in a uniform bill of lading contract, joint bills of lading could be issued by the motor lines participating with other interstate carriers, the joint use of terminals could be arranged, and the interchange of freight could be facilitated. The same principles that have been applied by the Commission for the promotion and development of other instrumentalities of the transportation system might well be applied to motor carriers, so that the best interest of each kind of carrier and of the public might be provided."(34)

## Stabilizing Motor Transportation Through Permit Control.

The control of motor truck common carriers in interstate commerce through permits or certificates of public convenience and necessity is the desirable form in future Federal regulation. Its basic principle is to stabilize and improve service through the elimination of wasteful competition and furnish the justification for increasingly large investments in the semi-public industry when in the interest of public convenience and necessity. In this connection the Interstate Commerce Commission recommended that:(35)

> No person should be permitted to operate a motor vehicle for the transportation of property for hire either as a common carrier or a contract carrier, over the public highways in interstate commerce, without first secured a permit.

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(34) Wilson, G. Lloyd, "Motor Traffic Management," Chapter XVII, p. 222.

(35) 182 I. C. C. 386.

In granting a certificate to a motor carrier, whether the regulatory body should take all the existing transportation facilities or only the motor services into consideration is a very important point which the future legislation should clearly define. Arguments favoring the consideration of all existing facilities are based on the following reason:(36)

> In a given locality, there is already in existence a transportation service the continuance of which is absolutely essential to the community, and that this service might be destroyed by the establishment and operation of the proposed additional facilities. If there is not enough business for both and choice must be made between them, their relative importance to the public should be the determining factor in reaching a conclusion as to whether the certificate applied for should be issued.

Opponents of the above theory reply that since the motor service is so essentially different from other transportation services, each kind of service should be considered separately. The controlling factor in the issuance of a certificate is the public demand and desire for highway transportation, not the remote ill effect upon the rail and other carriers.

In his tentative report to the Interstate Commerce Commission, Examiner Flynn upheld the former argument, saying:(37)

> "It is in the public interest and economically sound that the availability and adequacy of existing transportation facilities should be considered, as well as the effect that a proposed service will have on existing transportation agencies, the continued operation of which is important to the territory served by them."

## Should the Contract Carrier be Regulated?

A question closely related to the above must be considered in deciding whether the contract carrier should be regulated. It is generally believed that no regulation of motor truck carriers can be enforced effectively without including the contract carrier. According to the estimate of the Interstate Commerce Commission about 7½ per cent of truck traffic was hauled by contract carriers engaged in interstate commerce, while 5 per cent by common carriers. Since no regulation, state or Federal, is applied to the contract carrier in certain sections of the country, many evil results followed.(38) For instance, it destroyed the rate arrangement of motor common carrier and thus weakened other transportation agencies; it makes unnecesary duplication of transportation service; and it creates discriminations as between individuals and communities, either as a matter of expediency or as a result of the influence of powerful shippers.

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(36) Brief on behalf of the Association of Railway Executives, before the Interstate Commerce Commission on Docket No. 23400.

(37) I. C. C. Docket 23400, Examiner's Report, sheet 110

If the regulation is applied only to the common motor carrier, it is obvious that many of those suffering from the unregulated competition of the contract carrier, will withdraw from common carrier service and become contract carriers.

Farsighted state regulation may afford a good example for the future Federal legislation. At present, regulations of 22 states cover, directly or indirectly, the contract carriers of persons and property.(39) The Michigan Public Utilities Commission made a state-wide investigation in the matter of motor operation in Michigan in 1930, and found most of the common carrier trucks show a net deficit and are suffering from unregulated competition of contract carriers. In its report, the Commission said "there can never be proper state regulation, in our opinion, without control of this class of carrier (contract carrier) by an interstate body." Accordingly, the state legislature enacted a law empowering the Commission to reasonably regulate every contract truck carrier in the intrastate commerce. A similar case was presented in the State of Texas. In upholding the state's action the United States District Court observed that if a state decides that the business of transportation by contract carrier may no longer, from the viewpoint of public interest, be considered as a business entirely separate and distinct from that of the business of transportation by rail and highway common carrier, and that all transportation service for hire are so interrelated and interdependent that the public may not continue to have a safe and dependable system of transportation unless contract carriers operating on the same highways with common carriers are brought under control by appropriate regulation, No just or valid reason exists why the State cannot establish such control.

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(38) Duncan, C. S. "Rails and Roads," page 51.

(39) Brown, Larue and Scott, Stuart N., "Regulation of the Contract Motor Carrier under the Constitution," Harvard Law Review, Vol. XLIV, No. 4, pp 568-571.

Opponents to the inclusion of contractor carrier in regulation generally stress two objections. First, regulation in the sense of control of contracts, rates, and practices, cannot be imposed upon the contract carrier without violating the due process clause. Second, the contract carrier who does not hold himself out to serve the public in general but operates exclusively on special contract with an individual shipper or group of shippers cannot be brought within the limit of congressional power. On the other hand, the proponents of such regulation hold that the contract carriers are clothed with a public interest not only from the practical point of view but also from the many precedents in decisions of the Supreme Court of the United States. In the case of Budd vs. New York,(40) the court approved the state regulation of elevator charges and practices on the ground that "business of certain kinds holds such a peculiar relation to the public interest that there is superinduced upon it the right of public regulation." In the case of Munn vs. Illinois(41) which involved the regulation on warehousemen, the court held that the statute of Illinois simply extended the law so as to meet a new development of commercial progress. Without enumerating all similar decisions, it is obvious that the public has no more direct or positive interest in the business of warehousemen and elevator than it has in the business of contract truckmen carrying interstate commerce on the highway which has the power of impairing other important agencies of interstate commerce and of destroying the ability of Congress to regulate effectively interstate commerce itself.

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(40) 143 U.S. 533

(41) 94 U.S. 113

The regulatory power of Congress has been under consideration by the Supreme Court in large number of cases, to quote:

> "Congress is empowered to regulate—that is, to provide the law for the government of interstate commerce; to enact 'all appropriate legislation' for its 'protection and advancement' (The Daniel Ball, 10 Wall, 557 564 to adopt measure to 'promote its growth and insure its safety" (County of Mobile v. Kimball, 102. U.S. 696)

In the Second Employer's Liability cases, the court gave its approval as follows:(42)

> "Congress, of course, can do anything which, in the exercise by itself of a fair discretion, may be deemed appropriate to save the act of interstate commerce from prevention or interruption, or to make that act more secure, more reliable, or more efficient."

It can be observed from the above statement that the regulatory power of Congress is broad enough to control both common and private carriers.

### The Agency of Control

In order to get the advantage of simplicity, uniformity, and effectiveness, the regulating power of various agencies should be conferred to one administrative body. It is generally conceded that the Interstate Commerce Commission is the logical organization to enforce such law, since the Commission has been given jurisdiction over interstate commerce by railroad and other instrumentalities of transportation. If the new law of motor carriers be entrusted to this regulatory body, a national policy in regard to the co-ordination of various forms of transportation is more apt to be established, in which all the carriers will be given equal consideration.

The bill for Federal regulation of motor carrier realized this necessity, but at the same time sought to preserve the efficient administration of various states. The Parker-Couzens Bill proposed that the Interstate Commerce Commission be charged with administration of the act, with permission to delegate its power to state commissions to enforce Federal statutes. Joint boards were to be formed, consistingof a member from each state, with the same jurisdiction as member of the Interstate Commerce Commission. Its recommendations were to be subject to review by the Commission. When the motor operation involved not more than three states, the commission should refer to a joint board for hearing and recommendation, but when the operation involves more than three states, the Commission may or may not refer to the joint board.

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(42) 223 U.S. 48

There are at least four reasons to support this arrangement:(43)

1. To relieve an already overworked Commission,
2. To take advantage of the peculiar knowledge and experience of local boards.
3. To function efficiently by co-operation with state authorities, and
4. To preserve the influence of state railroad and utility commissions.

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(43) Daggett, Stuart, "Principles of Inland Transportation," p. 693.

# CHAPTER XI

## SUMMARY AND CONCLUSION.

The co-ordination of rail and motor truck implies the adoption of the new agency of transportation, the motor carrier, into a general system upon a common basis with the railroads, each devoting itself to the field in which it is most efficient so that more efficient and economical service can be obtained. If this is done, the public will be better served, and the national transportation system will be developed properly and economically.

The possibility of co-ordinating different agencies into an integral system is due to their differentiation in functions, otherwise co-ordination would be meaningless on economic grounds. The justification of co-ordinated rail-truck freight service may be viewed from the following angles: railroad service possesses the advantage of regularity over definite routes, whereas the truck service has the advantage of flexibility in meeting emergency traffic; the railroad is best adapted to large scale operation over long distance, while the truck is limited to small volume over short distance; and the railroad industry is known as one of the roundabout productive processes which require large investments to start business, while the truck operation needs only a comparatively small amount of capital.

Two different theories stand out as to the method of co-ordinating these two agencies; one advocates the nationalization of all forms of transportation under government control and operation, while the other favors voluntary co-operation of various agencies owned and operated by private companies, but under proper public regulation. In view of the traditional governmental policy on railroad transportation in the United States, it is reasonable to predict that future developments in the co-ordination of various agencies will be based on the latter theory, unless a drastic change in government policy is made.

In recent years many railroads have come to realize the importance of co-ordinated rail-motor freight service, and some of them have come to consider it as a part of railroading. Up to June, 1930, there were 32 class I, 8 class II, 6 class III, and 10 electric railways engaging in the motor truck operation. The National Automobile Chamber of Commerce reports 85 railroads of all classes operating 10,000 motor trucks in co-ordinated motor-rail services at the close of 1931.

The following methods are used by railroads to provide co-ordinated motor-rail freight services:

1. Direct operation in which the railroads operate motor truck services as an integral part of the rail operation, under which economies can be attained through the joint use of facilities, personnel and organization. This form of co-ordination is rarely used in this country due to lack of legislation defiing the relations of motor vehicles to other forms of transportation.
2. The contract system under which the trucking companies act as the agents of the railroads in performing certain kind of highway service. Each agency is independent of the other.
3. The stock control plan under which holding companies of the railroads may acquire a majority of the capital stock of certain trucking companies, and by arrangement the latter perform trucking services for the railroads. This form is much like the contract system, except that there is a financial community of interest between the railroads and their trucking agents.
4. The subsidiary company plan under which the railroads organize subsidiary companies to perform motor service.

Advocates of the contract trucking service emphasize the following econimies; less time and expense is required to provide efficient trucking service; it avoids serious competition between the railroads and independent trucking companies; it benefits railroads by the traffic solicitation of trucking companies; and it eliminates labor disputes owing to the different treatment of employees in rail and truck operation.

Proponents of the subsidiary company system believe that the advantages of joint use of facilities and personnel, and large-scale operation are the cardinal reasons in supporting this system. Moreover, the control of franchises under which motor operations are conducted in certain territories puts the railroads in a position to meet future developments. Whether the trucking operation through subsidiary companies should be considered as railroad operation is still an unsettled question. Under state legislation, this service is regulated just as that of an independent trucking company. According to the interpretation of the Interstate Commerce Commission, trucking service within the terminal area is considered as a part of rail service, when it is outside the terminal area the Commission has no jurisdiction to regulate it. However, it is legal for the railroads to operate motor subsidiaries in the form of investment, in affiliated companies.

### Terminal Service.

The greatest opportunity for co-ordination of rail-motor freight service is in the terminal area where the railroad capacity is most limited. The question of expansion of railroad terminal facilities in the crowded cities to meet the constantly increasing traffic is a difficult one for railroads to solve. The heavy financial burden and the physical limitations of land handicap the railroads in improving terminal operations. This problem has become more acute in recent years due to the concentration of population in the metropolitan areas, the changed demands of shippers with respect to transportation service, and the demand for specialized terminals for handling certain kinds of traffic. The use of motor trucks within terminal areas to supplement rail service has proven in many cases to be a solution to the terminal problems. The following means of co-ordinating rail and motor service are extensivley employed by railroads in this country:

Constructive and off-track station services.—The constructive station is not a physical station but an imaginary line that divides the responsibility and expense between the rail carrier and the trader. Under this system shipments hauled by truck are collected from the shippers, store-doors and delivered to the railroads. From the railhead up to the constructive points the rail carriers pay the trucking charges and assume full responsibility, beyond these points the traders bear the charge and responsibility.

Off-track stations, as the name indicates, are stations which are not connected with rail tracks, where the station work is performed by the trucking agencies of the railroads. The off-track stations are connected with the railroad stations by motor trucks which are employed in moving shipments to and from those stations as substitutes for rail service.

Trucking in lieu of lighterage service.—Instead of using carfloating or lighterage methods to overcome the physical handicap at port terminals, many railroads employ trucks to haul shipments between the rail head and pier stations or off-track stations within the lighterage limits. The New York practice is the outstanding example of this system. Inbound traffic is transferred from cars to trucks at the railheads on the Jersey side, and hauled by truck to the Manhattan side; thus, reducing the time required to move the goods and lowering operating costs.

Trucking in lieu of trap car service.—Subject to all rules governing the trap or ferry car service, the railroads may employ trucks or tractors and trailers to haul both inbound and outbound traffic to or from the shipper's warehouse, instead of using freight cars for this purpose.

Trucking in lieu of interline switching service.—The same mothod can be applied to the interline switching service, i. e. interchange of traffic by truck movement between stations both of which are within the same switching limits but on different lines. This substitution helps the railroads to regain a portion of the lost traffic by simplifying the intricate switching movements and expediting delivery.

Another method of substitution is used by the Cincinnati terminal where demountable containers are used for the interchange of L.C.L. freight among different lines and for sub-station transfer work. All railroad lines serving this terminal use the Cincinnati motor terminal company as the sole trucking agent. This company furnishes equipment and performs trucking services for all railroads.

Store-door delivery service—The term "store-door delivery" as usually used in the United States refers to the delivery of shipments from railroad stations to the premises of the consignees and the collection of shipments from premises of shippers for delivery at the railroad freight stations. Although this system had been previously tried in several localities in this country, it was not until recent years that the railroads seriously considered the re-establishment of the service. The chief reason for the revival of interest in store-door service was the competition of motor transportation. Shippers have become accustomed to the door-to-door freight service and they are no longer content with the conventional terminal-to-terminal freight service offered by the railroads. In other words, store-door service has come to be considered by the railroads as a defensive method to retain or regain traffic which they have lost to the highway carriers. This development has been particularly noticeable in the Far West, in the Southwest, in New England Territory, and in New York. Each store-door system provides for delivery and collections service at both ends of the rail hauls. The rate arrangements vary according to the local competitive forces. Some railroads absorb the charges for this additional service out of local rates, while others place the additional charges upon the shippers or consignees. Usually the trucking services are performed by independent trucking concerns under contracts with the operating railroads.

The truck service is also employed in conjunction with certain railroad line-haul freight services. Owing to the flexibility and elasticity of the motor truck, it can serve districts with a dense population and heavy traffic as well as sparsely populated districts where the traffic is light. It can relieve the congestion in the large cities where the rail facilities are overtaxed, and, on the other hand, it can link up the outlying stations where the volume of traffic is not sufficient to justify train operation. Co-ordinated rail-motor freight services in line-haul movements fall into the following classes:

First, the substitution of motor truck service for train movement.—This substitution is usually limited to local operation, particularly in local way-train and branch-line services. It is generally conceded that local freight train movement is not only slow, but also expensive in proportion to the distance traveled and volume of traffic handled. The lower costs of truck operation and the flexibility of truck services are best adapted to this type of operation. Many railroads use truck services in place of local train movements, resulting either in the discontinuance of trains, or in the elimination of stops at local stations. In connection with the elimination of stops, truck services have been introduced to make station-to-station hauls, in lieu of steam train service to local stations. In this way, terminal services have been relieved by diverting a portion of local traffic to highway trucks, and in other cases the freight schedules have been expedited due to the fact that fewer stops are found necessary.

The use of truck service to serve new territory.—In the rural districts where the volume of traffic is too light to justify train operation, motor trucks are used to perform feeder services in connection with the railroad freight services. Motor truck operation, as an intervening stage between no railroad facilities at all and the regular train service, brings new traffic within the rail orbit. In certain localities rail lines follow circuitous routes; motor service via direct overland routes expedites the movement of goods to a considerable extent.

Express type service.—Through subsidiary trucking companies several railroads offer complete service, performing the line-haul service by rail, while the trucking companies take care of the terminal deliveries. Under the contracts, the railroad acts as agent for the subsidiary companies. The relationship of the railroad and motor carrier is exactly the same as that between railroads and the Railway Express Agency, Inc. Strictly speaking, these arrangements are devices through which to absorb the store-door delivery costs out of rail rates. However, they have proved to be expedient steps in meeting motor competition; the railroads can handle additional traffic without incurring proportional expenses by converting a portion of their unused equipment and station forces to revenue service. This service is sufficiently flexible to meet the challenge of motor carriers without involving any legal question.

The use of interchangeable equipment for rail-and-truck operation.—The use of interchangeable facilities for rail and truck operation is one of the most important requirements in the co-ordinated service, without which full economy can hardly be obtained. In this connection many railroads have experimented with many types of new equipment. Generally, the new facilities fall into two classes; one, the types of vehicles which can be operated both on rail and on highway, such as the railwagons and the ferry-trucks, and the others, the containers or demountable bodies which can be handled either on freight cars or on motor trucks, and which are transferable from one to the other. The container and truck bodies may be classified under this heading.

Although these new facilities are still in the experimental stage, the advantages claimed both by the operators and shippers include:—

1. Relief of terminal congestion;
2. Elimination of unnecessary handling of commodities,
3. Elimination of the expenses for packing and crating,
4. Reduction in transportation cost,
5. Reduction of billing expense,
6. Eliminating loss, damage, and pilferage on shipments,
7. Expediting service, and
8. Meeting the demand for modern transportation service.

The container has met with some degree of success, particularly in freight forwarding. The bone of contention in the container car service is the rate structure. Formerly, in order to meet truck competition, container rates were fixed upon a flat mileage basis, regardless of the classification of the freight loaded in the containers.

Later the Interstate Commerce Commission found the basis to be unreasonable and illegal, and a new basis was set for the container traffic which, with some exceptions, approximates the third class rates. After one year's experimentation, many operating lines found that the new rate basis placed them at a disadvantage in meeting truck competition, especially in the short haul traffic. It is proposed to petition the Interstate Commerce Commission for a second hearing.

The primary purpose of the truck-body services offered by the railroads which have adapted this type of service is to provide a means of tying up the motor carrier with the railroad. For at least two reasons the truck body service will be used more by motor truck carriers than by individual shippers. First, the truck-bodies are furnished by the shippers rather than by the carriers, and second, the large loading capacity of the truck-bodies is beyond the reach of average shippers. Truck-body rate arrangements are also purposely designed to fit this need. The railroads consider the truck bodies as a commodity upon which the rates vary with the dimensions of the bodies, regardless of their contents, or whether loaded or empty. In this way, the truck-body rates are relatively lower than the truck rates for the same amount of traffic for the same distances over the highways. It is profitable for truck carriers to entrust the railroads with the line-haul movements by consolidating all shipments from different shippers into truck-body lots for line-haul movement by rail and terminal movement by motor.

Co-ordinated rail-motor freight service can be secured through a third agency, the freight consolidating company. To many shippers the service performed by the consolidating companies is preferable either because their rates are lower than railroad class rates or because they perform distributing service in the terminal area. The importance of the consolidator in the field of co-ordinated transportation can hardly be over-estimated. Records show that nearly 90% of the container traffic on three Eastern railroads was contributed by the consolidators, and in most instances, this agency uses trucking service to supplement the rail movement at both origin and destination.

Since the consolidating company is not a common carrier, its rates and practices are not subject to public regulation. As a result, very keen competition exists among them, and between them and other carriers. The recent participation of railroads in the consolidating business makes the situation more acute. Some consolidating companies owing to the domination of the railroad are no longer independent organizations, and this tends to intensify inter-railroad competition.

The only remedy suggested by the Interstate Commerce Commission is to modify the Interstate Commerce Act to such an extent as to require that the rates, regulations, and practices of consolidating companies engaged in interstate commerce shall be reasonable and nondiscriminatory, and subject to regulation by the Commission as an interstate carrier. The co-ordination of rail and motor transportation has been hindered by the existing legal restrictions to certain extent. The Clayton Anti-trust Law of 1914 provides that no corporation engaged in interstate or foreign commerce shall acquire, directly or indirectly, all or any part of the capital stock of another corporations which are engaged in the same commerce where the effect of the acquisition would be to substantially lessen the competition between the corporations. This prevents the railroads from acquiring control of motor carriers in offering complete transportation service.

Another obstacle is that motor carriers are not common carriers subject to the Interstate Commerce Act except when they operate in connection with terminal services with rail carrier which is subject to the Act. Accordingly, through routes and joint rates can not be arranged between them and railroads. The Interstate Commerce Commission has held in this connection that:

"While there is no express prohibition in act against the publication of joint rates in connection with a common carrier not subject to the act, but the commission held that the line must be drawn between those carriers whose rates and practices we can control and those which we cannot control, and upon the line of reasoning it has been our ruling that joint rates can not be made between carriers subject to the act and those not subject to the act."(*)

Effective co-ordination of rail and motor transportation agencies cannot be achieved without proper regulation on each of them. Under present conditions the railroads are comprehensively regulated both by state and Federal governments, while motor transportation is only loosely regulatory bodies. In the opinion of leading authorities, this absence of federal action impedes the proper development of motor transportation and its proper integration with other agencies.

The demand for Federal regulation of motor truck carriers engaging in interstate commerce is urgent because of the constant increase in highway traffic and the close relation of motor traffic and the traffic on electric and steam railways. There is a considerable amount of opposition to such action by many shippers and by many in the motor transport industry. These interests hold that according to the weight of testimony in the Interstate Commerce Commission, the demand for Federal regulation of motor trucks does not come from the shipping public but from the railroad industry; that since the motor truck is still in its infant stage, it should be permitted to develop for a while without government restriction; and that there are many practical difficulties which prevent the enforcement of regulations. Advocates of Federal regulation believe, however, that it is inconsistent with public policy to regulate intrastate motor carrier and let interstate motor carriers go free; that without proper regulation ruinous competition will destroy the efficient service of other transportation agencies as well as motor truck carrier; and that even public sentiment may not fully realize the importance of regulation, prevention is always better than cure.

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(*) 91 I. C. C. 539

Two important issues relating to the co-ordinated rail-motor service are involved in the future Federal regulation of motor carriers. The first of these, is definite statutory authority for the railroads to enter the field of highway transportation. It is generally believed that co-ordination may be effected to some extent by railroads and motor carriers independently, but that such co-ordination will fall far short of what can be accomplished if the railroad and the motor vehicle operations are under the same management, control or identity of interest. In the second place, to stabilize motor truck transportation, regulation by proper Federal regulation is necessary. In this way, wasteful competition can be eliminated and larger investments in motor operation can be induced. The core of the question of regulation, seems to be the inclusion of contract carriers in the regulation: otherwise, the unregulated service will destroy the rate arrangement of motor common carriers, make unnecessary duplication, and impair the services of other transportation agencies.

# APPENDIX I

## COST PER TRUCK MILE IN CENTS FOR OPERATION OF TRUCKS OF RATED CAPACITY IN TON.

| | Light | 1-ton | 1½-ton | 2-ton | 2½-ton | 3-ton | 3½-ton | 5-ton | 7-ton |
|---|---|---|---|---|---|---|---|---|---|
| Fuel | 1.33 | 1.97 | 3.37 | 9.33 | 5.13 | 10.11 | 10.20 | 11.75 | 11.55 |
| Lubricant | .12 | .27 | .53 | 1.21 | .42 | 1.05 | 1.10 | 2.10 | 2.10 |
| Tires & Tubes | 0.54 | 0.91 | 1.03 | 1.11 | 2.17 | 1.69 | 2.40 | 3.65 | 3.65 |
| Maintenance | 1.80 | 1.83 | 4.50 | 5.19 | 7.79 | 4.17 | 4.36 | 9.36 | 10.08 |
| Depreciation | 2.22 | 4.31 | 7.00 | 9.00 | 11.95 | 15.00 | 16.00 | 8.30 | 9.00 |
| Driver's Wages | 10.00 | 10.00 | 12.00 | 14.00 | 14.00 | 14.00 | 14.00 | 16.00 | 18.00 |
| Garage | 0.48 | 0.48 | 0.48 | 0.48 | 0.76 | 0.50 | 0.50 | 0.50 | 0.50 |
| License | 0.19 | 0.21 | 0.25 | 0.25 | 0.35 | 0.50 | 0.50 | 0.75 | 1.00 |
| Interest on Capital | 0.50 | 0.75 | 1.00 | 1.50 | 1.75 | 2.00 | 2.25 | 3.00 | 3.00 |
| Taxes | 0.01 | 0.01 | 0.02 | 0.02 | 0.03 | 0.04 | 0.04 | 0.05 | 0.06 |
| Insurance | 0.23 | 0.97 | 2.00 | 2.50 | 2.83 | 3.00 | 3.00 | 3.00 | 3.00 |
| Supervision and Overhead | 2 61 | 3.25 | 4.83 | 6.69 | 7.07 | 7.80 | 8.14 | 8.67 | 9.27 |
| Total | 20.03 | 24.96 | 37.01 | 51.28 | 54.25 | 59.86 | 62.49 | 66.52 | 71.21 |

Note. This table is reproduced from "Highway Economics," by Sivald Johannesson, 1931. These amounts are determined partly from actual records of costs and partly from estimates.

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